

# **Disaster lessons as Governmentality**

**The disaster lessons of Canterbury  
emergent post-earthquake groups**

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# *Abstract*

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Disasters that significantly affect people typically result in the production of documents detailing disaster lessons. This was the case in the 2010 and 2011 Canterbury earthquakes, as government and emergency response agencies, community organisations, and the media, engaged in the practice of producing and reporting disaster lessons.

This thesis examines the disaster lessons that were developed by emergent groups following the Canterbury earthquakes (4 September 2010 and 22 February 2011). It adopts a Foucauldian analysis approach to investigate both the construction of disaster lessons and to document how this practice has come to dominate post-disaster activity following the Canterbury earthquakes.

The study involved an analysis of academic literature, public documents and websites and interviews with key members of a range of Canterbury based emergent community groups. This material was used to generate a genealogy of disaster lessons, which was given in order to generate an account of how disaster lessons emerged and have come to dominate as a practice of disaster management. The thesis then examines the genealogy through the concept of governmentality so as to demonstrate how this discourse of disaster lessons has come to be used as a governing rationale that shapes and guides the emergent groups conduct in post-disaster New Zealand.

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# *1. Introduction*

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## *Overview*

This thesis investigates disaster lessons and its dominance as a post-disaster activity in Canterbury. The disaster lessons of emergent groups who formed following the 2010 and 2011 Canterbury earthquakes are used as a case study to explore this.

After a disaster occurs, collective community action is often triggered, and citizens tend to intervene and respond as helpers (Orloff, 2011; Yamamura, 2013). This was the case in the Canterbury earthquakes with citizens intervening and some forming emergent post-earthquake groups. Another common post-disaster activity is the practice of generating disaster lessons. This includes sharing experiences and performance information to improve disaster management in the future (Donahue & Tuohy, 2006). Documenting and identifying disaster lessons was a practice that emergent post-earthquake groups partook in, which this thesis highlights as well as how disaster lessons come to dominate as a post-disaster activity.

## *The Canterbury earthquakes*

Two major earthquakes struck the Canterbury region of New Zealand in 2010 and 2011. The first major earthquake struck at 4:35 am on September 4, 2010 and measured 7.1 on the Richter scale. It was centred 40 kilometres west of the city centre near the town of Darfield. The September earthquake resulted in extensive and widespread destruction to buildings and infrastructure. Few people were injured and fortunately there were no deaths (McLean, Oughton, Ellis, Wakelin & Rubin, 2012; Potter, Becker, Johnston & Rossiter, 2015).

Another major earthquake occurred on February 22, 2011 at 12:51 pm and measured 6.3 on the Richter scale. This earthquake caused the greatest impact with 185 deaths

and many people were injured. This earthquake caused severe damage to Christchurch's central business district (CBD). Most buildings in the CBD were severely damaged, with only about a quarter of the buildings being repairable (McLean, Oughton, Ellis, Wakelin & Rubin, 2012; Potter, Becker, Johnston & Rossiter, 2015). Approximately 8,000 homes were demolished or relocated under the "Red Zone" (if the repair cost exceeds the cost of rebuilding) (Vallance & Carlton, 2015). Both earthquakes caused ejection of silt and fine sand, which is called liquefaction. Liquefaction had an impact on transport networks and it also infiltrated and contaminated the storm water system. Thousands of properties were inundated with liquefaction. In some areas the ejecta was polluted by sewage (Villemure, et.al, 2012). There was also widespread damage to building infrastructure, roads, power networks, water supplies, sewer services and thousands of residents were displaced as an outcome of both earthquakes (Wilson, 2013).

### *Emergent groups and disaster lessons*

As long as there have been disasters people have tried to find tactics to control them. People and societies have made various attempts to reduce the effects and consequences of disasters, developing methods and ways to address disaster impacts, response and recovery (Coppola, 2011). Emergent groups are people who band together, informally to intervene and help in such events.

Notably, in both the September 2010 and February 2011 earthquakes, emergent groups "sprang into action when the ground started shaking"; emergent groups formed to help in the response and the early and long term recovery of the earthquakes (Mamula-Seadon & McLean, 2015; McManus, Johnston & Glavovic, 2015, p.70). Emergent groups formed to help with the delivery of food, accommodation, information dissemination, publications, protests, clean-ups, earthquake advocacy and support and rejuvenating the city with art and greenery projects (Vallance & Carlton, 2013).

Disaster lessons can be understood as disaster experiences, performance information and knowledge accumulated following a disaster (Birkland, 2009; Donahue & Tuohy,



2006; Krausmann & Mushtaq, 2006; Pfister, 2009). Glantz and Kelman (2013) suggested that people, groups and societies learn from their choices, which can result in either good or bad consequences or maybe even both. According to Levitt and March (1988) the purest form of learning is through experience. Reflection and discussion is another way to generate knowledge from disasters (Featherstone, 2014). Busenberg (2001) suggested that learning is where people employ new knowledge and ideas.

The term disaster lesson or lessons learned can be used interchangeably. However, a distinction between disaster lessons and lessons learned is made in some of the literature but often this distinction is a critique of the loaded concept of disaster lessons (Birkland, 2009; Glantz & Kelman, 2013). According to Glantz and Kelman (2013) the concept lessons learned comes with the assumption that the lesson is or has been addressed. Birkland (2009) suggested the term lessons learned gets used when lessons have been identified and not truly learnt from because problems have not been addressed or change has not been enacted as a result of the lesson. This thesis uses both disaster lesson and lessons learned, interchangeably to encompass a process through which lessons from our experiences are captured and identified and then shared with the hope that these lessons will be used and implemented to enact change in the future (Birkland, 2009; Glantz & Kelman, 2013).

Disaster lessons often get generated through government disaster management systems. In New Zealand the Ministry of Civil Defence and Emergency Management generate reports and reviews related to disaster lessons. After the Canterbury earthquakes, for example, there was a report titled the *Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake* (McLean, Oughton, Ellis, Wakelin & Rubin, 2012) that demonstrated disaster lessons. Post-incident reporting and debriefing after disasters is a common practice. The practice of post-incident reporting can include documenting what happened, along with accounts of actions and results, along with problems that were encountered and potential solutions to these problems (Donahue & Tuohy, 2006).

Emergent groups who developed and responded to the earthquakes played an informal role within the disaster management system. Emergent groups' have been involved in

generating accounts of disaster lessons. An example, *Community Resilience: case studies from the Canterbury earthquakes* (Cholewa & Mamula-Seadon, 2012) is a report that was published by the Ministry of Civil Defence and Emergency Management, which includes case studies of emergent groups who shared their experience and identified challenges and successes, which together represent disaster lessons (Cholewa & Mamula-Seadon, 2012).

Although the documenting of disaster lessons is a regular practice that dominates post-disaster thinking and practices, there is a gap in the research on *how* and *what* emergent groups specifically learn in relation to disasters. Also missing in the literature is a direct focus on how disaster lessons dominate thinking and practices that are associated with aspects of the post-disaster period. This thesis attempts to address these gaps.

## *A reflection on disaster lessons*

During the research process, where I began collecting data through participant interviews, government reports and media articles; it became clear how common the practice of documenting and identifying (constructing) disaster lessons was. Much of the literature, including governmental disaster management reports and media articles, had outlined the importance of identifying disaster lessons, its value and the specific lessons learned by various organisations. However, there was a gap in relation to how and why this narrative and practice was dominant in the post-disaster period. From this, I became interested in disaster lessons as a dominant discourse.

As I began the initial analysis of the data, I became aware of my construction of disaster lessons discourse. The research itself was a construction of this discourse. In the interviews, I and the participants co-constructed disaster lessons discourse and during the analysis I was reinterpreting the data and constructing this discourse. During the analysis I reflected on being stuck inside this discourse of disaster lessons. The feeling of being stuck inside this discourse represents the power of this discourse. As Phillips and Hardy (2002) suggested, there is no reality, without discourse. Discourse constitutes reality, our experiences and ourselves. Discourse is everywhere

and “comes from everywhere” (Foucault, 1998, p.63). Through the analysis I began to understand the power of disaster lessons discourse, which constructed aspects of reality associated with the post-disaster period and this was visible as post-quake groups’ experiences were constructed through discourses of disaster lessons.

Disaster lessons were intrinsic to participants’ reflections on emergent groups and their participation in the earthquake response and recovery. Emergent groups disaster lessons were constructed and understood in terms of organisational challenges and development. This reflected the way the discourse of disaster lessons was playing out through the emergent groups.

## *Aims of the research*

The aim of this thesis was to examine the disaster lessons of emergent groups that developed following the Canterbury earthquakes (4 September 2010 and 22 February 2011). To examine this, the thesis adopted a Foucauldian analysis approach to investigate the construction of disaster lessons and to document how this practice has come to dominate post-disaster activity following the Canterbury earthquakes. A genealogy of disaster lessons was conducted in order to highlight the forces that have constituted the practice of documenting and identifying disaster lessons. The genealogy generated an account of how disaster lessons emerged and came to dominate as a practice of disaster management. The account uses Foucault’s concept of governmentality as a counter-narrative to demonstrate how this discourse of disaster lessons has come to be used as a governing rationale that shapes and guides the population’s conduct.

## *Thesis structure*

This thesis has been arranged into seven chapters. This first chapter presents an overview of the topic, the rationale that guided this study, along with the aims and objectives of this research, and a chapter by chapter summary.

The second chapter outlines the relevant literature that highlights key research, theories and themes related to emergent groups and disaster lessons. The chapter also identifies gaps in the literature related to emergent groups and disaster lessons along with a postmodernist theoretical gap related to these topics of emergent groups and disaster lessons.

The third chapter details the research design including the theoretical perspectives and methods that have been employed. A qualitative research design was adopted and the reasons for this are discussed. Following this, the case was made for adopting a social constructionist perspective and using a Foucauldian discourse analysis approach. This was then followed by a discussion on data collection, methodological challenges, research concerns and ethics. The last section of the chapter outlines the analysis process.

The fourth chapter, the genealogy, presents a historical tracing of disaster lessons so as to investigate the construction of the practice through various systems of thought. The genealogy documents how the practice of documenting and identifying disaster lessons comes to dominate as a post-disaster activity.

The fifth, findings chapter outlines the present day practice of documenting and identifying disaster lessons through emergent post-quake groups. The findings demonstrate, the trajectory of an emergent group, with a specific focus on organisational learning, challenges and engagement in the practice of documenting and identifying disaster lessons.

The sixth chapter theorises the data using Foucault's concept of neoliberal governmentality. This was used as a counter-narrative to demonstrate how disaster lessons are used as a governing rationale, to regulate the populations conduct. Concepts of agency and autonomy are also used to explain some of the findings.

The seventh and final chapter concludes with a recap of the human story of the earthquakes along with an overview of the thesis argument, the methodology, the findings and the theoretical contributions made. Also discussed were the limitations of this research and areas where this research could potentially be furthered.

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## *2. Literature Review*

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### *Introduction*

This chapter reviews the relevant literature and theoretical foundations that were central to the topic of disaster lessons with a particular focus on emergent post-disaster groups and learning. The literature review primarily focuses on sociological disaster literature and research.

The first section explores the disaster research field and paradigms that have influenced this field within sociology. Post-disaster emergent behaviour and groups has been a prominent topic explored within the sociological disaster literature and this was reviewed along with literature about learning and lessons learned in relation to disasters. The literature on disaster lessons and organisational and group learning was examined along with theoretical understandings of learning. The review also identified literature that critiques the concepts of disaster lessons and learning. The final section outlines gaps in the literature and relates them to the thesis topic. This includes a gap in the literature on the disaster lessons of emergent groups, along with a theoretical gap of the postmodernist perspective and its employment to study emergent groups and disaster lessons.

### *Disaster research*

In the academic literature, the sociological research on disasters has been influenced by a series of theoretical shifts in the field's history. Four perspectives in particular, including realism, symbolic interactionism, systems theory and social constructionism, have influenced the study of collective post-disaster behaviour.

Sociological research on disasters became an established field in the 1950s, in the early period of the cold war (Dynes & Drabek, 1994; Kreps, 1983; Tierney, 2007), and was influenced by realist assumptions according to which objective reality is

knowable through empirical studies (Ngenyam Bang, 2016). Sociological research on disasters in the United States initially had focused on a narrow collection of questions that were a point of interest to the state and military. These questions centred on “potential public responses in the event of a nuclear war”. Natural and technological disasters were utilised to study social behaviour under situations of major physical damage and social disruption (Tierney, 2007, p.3).

Following this time when research priorities were focused on providing information about public responses to governments, much of the sociological research on disaster became centred on collective and organised behaviour during and after a disaster’s impact (Tierney, 2007). This research focus was influenced by both symbolic interactionism and a social systems perspective. Historically, there has been a long tradition of employing the symbolic interactionist perspective in disaster research. This perspective is concerned with subjective meanings applied to disaster events. From this approach Mileti and Darlington (1997) suggested that, disaster behaviour is commonly “ordered and guided by new shared constructions of reality” (p.89).

Symbolic interactionism’s roots can be traced to the University of Chicago through the National Opinion Research Center (NORC), and researchers there conducted the first disaster field studies (Rodriguez, Quarantelli & Dynes, 2006). In the 1950s NORC carried out studies on the emergence of social groups, including the emergence of social arrangements within the setting of disasters (Drabek & McEntire, 2003; Wachtendorf, 2004). This research focus continued on through the Disaster Research Centre (DRC) in Ohio State University and later at the University of Delaware (Wachtendorf, 2004). Quarantelli, a prominent disaster researcher who had trained at NORC, was one of the founders of the DRC. The DRC was influenced by traditional research relating to symbolic interactionism and collective behaviour (Quarantelli, 1995; Tierney, 2007).

The DRC’s early publications centred on debunking public response assumptions and myths. These studies contested commonly held myths regarding public panic, disaster reactions around shock and passivity. Quarantelli (1989) critiqued such myths including the panic and the passivity myth. The panic myth relates to the assumption that in a disaster people will panic to the extent of becoming hysterical, wildly taking

off, running away or otherwise displaying irrational behaviour. However, research has demonstrated that panic resulting in this type of behaviour is rare in community disasters. Another example, is the passivity myth, when people become paralysed and are unable to engage in purposeful actions and reactions. It was believed that in an event of a community disaster people would freeze and be incapable of acting or would be stunned and unable to react (Quarantelli, 1989). However, it is argued that many people in the aftermath of disasters exhibit pro-social behaviour and are active in helping one another (Majchrzak, Jarvenpaa & Hollingshead, 2007; Paton, Mamula-Seadon & Selway, 2013). The symbolic interactionist perspective and its focus on shared constructions of reality has challenged the panic and passivity myths about disaster response. And this challenge has deepened recognition and understanding of emergent behaviour post-disaster.

The sociological disaster research field has also been shaped by the natural hazards perspective, initially established by geographer Gilbert White. This perspective focuses on human and societal adaption to disasters. White in 1976, set up the Natural Hazards Center at the University of Colorado. The center focused on human and societal adaption that included preventing hazards, for example through the use of land planning and the development of restrictions; alleviating the effects of major hazards through actions, including building codes and insurance. These research endeavors went beyond immediate disaster responses and covered the whole hazard cycle (Tierney, 2007).

Tierney (2007) suggested that both the DRC and the Hazards Center have significantly influenced disaster research particularly through their funded research and their long history of knowledge building and transfer activities. Founders of these centers, including Dynes, Quarantelli and White, have defined the boundaries of mainstream disaster research. This research was often underpinned, directly or indirectly, by a systems perspective that places emphasis on social order and system integration (Bolin & Stanford, 1998). The systems perspective is concerned with systems and interactions between components of a system and the impacts these systems have (Simonovic, 2011). Major disaster events were understood to be disturbing ongoing societal systems and subsystems and as a result, adaption was required for affected social units (Tierney, 2007). Therefore, disaster research has

paid attention to not just the impacts of societal systems but also its adaption to disasters and their impact.

Since then, there has been a theoretical shift in disaster research, which has seen it become more open to social constructionism (Tierney, 2007). The social constructionist approach understands disasters, behaviour and response as socially constructed. Disaster research undertaken from this perspective pays attention to the social production of disasters (Tierney, 2007); for example, Stallings's (1995) research employed a social constructionist perspective to illustrate the construction of risk by claim-makers, and through processes of claims making and claims-making activities. This perspective was also employed in Neave, Wachhaus and Royer's (2017) research, which investigated the construction of disaster events in the United States. Neave, Wachhaus and Royer's did this by examining language and how it has historically been used to give meaning to disasters in the United States in an attempt to improve collective resiliency.

### *Criticisms of theoretical perspectives*

The sociological disaster research field has been influenced by a series of different perspectives focusing on different aspects of disasters, each of which perspective is open to criticism. For instance, the realist position on disaster research views knowledge as a direct assessment of reality, which can disregard the impact of contexts on perceptions and interpretations of social interactions and events. The realist perspective can also disregard a researcher's attempts, from a social constructionist perspective, to construct interpretations of findings. Another criticism of realism is that it is "state-centric", meaning that emphasis is placed on the state and state action (Fernandes, 1991).

The symbolic interactionist perspective has been predominantly employed to research organisational and emergent group behaviour in disasters. A criticism of this perspective is that it may ignore the role of systems and institutions and their roles in shaping and constructing people's behaviours. Early disaster research from a systems perspective was concerned with disaster events and their effect on systems in society.



A shortcoming of the systems perspective is that it considers events as natural occurrences and encourages adaption, rather than challenging social structures and promoting revolutionary change (Bolin & Stanford 1998). Stallings (1991) contended that the difficulty with a systems perspective and its approach to natural disasters as a social problem, is that it does not provide empirical referents to decide “when or whether disasters are problems or even what kind of problem they may be” (p.70).

Criticism directed towards a social constructionist perspective is that it denies that knowledge is a real reflection of reality. From this perspective, disasters are not considered to be an independent reality that is part of the external world (Andrews, 2012). Another weakness of the social constructionist perspective is that limitations are imposed on people and their agency. Macro social constructionism is associated with the “death of the subject” where people are conceptualised only as the result of discourse and societal structures (Burr, 2015, p.27). However, according to Andrews (2012) and Burr (1995) people do have a type of agency. People always attempt to present themselves and their accounts of events in ways that attempt to prevail over other accounts. Those who are powerful are most often successful in having their version of events become the predominant version. This suggested that people have agency in that they present themselves and their accounts in particular ways that may or may not represent the version that is dominant.

The criticisms presented in this section signal the different limitations to different theoretical perspectives that have been used in the sociological disaster research field. These theoretical limitations are important in terms of the thesis approach taken in light of weighing up these different approaches. Realism, symbolic interactionist and the systems perspective can ignore the deconstruction of phenomena. These three perspectives may fail to show a greater understanding of discourse and how post-quake groups’ accounts may construct lessons and how behaviour is constructed and shaped. The limitations of these three approaches underpin the decision to direct this research toward a postmodernist perspective as a way to help advance this thesis topic on disaster lessons. From a postmodernist perspective disaster lessons can be deconstructed, and this can provide insight into the construction of disaster lessons and its dominance as a post-disaster activity that emergent groups engage in.

The literature review will now move on from broad theoretical understandings and critiques of disaster behaviour to a consideration of specific literature on emergent post-disaster groups to set the scene for an understanding of these groups, their emergence, structure and function. This sets the tone for a review of the literature on disaster lessons and in particular the lessons of emergent groups.

## *Emergent group behaviour*

This thesis is concerned with disaster lessons of emergent groups in Canterbury. There was a small amount of literature that specifically focused on these emergent groups in Canterbury following the 2010 and 2011 earthquakes. This literature primarily reflects on the emergence of these groups and their activities and tends to link these groups to the concept of resiliency (Humphrey, Mitchell & McBride, 2011; Paton, Mamula-Seadon & Selway, 2013; Vallance, 2011; Vallance & Carlton, 2013). For instance, Vallance and Carlton (2013) created an inventory of community led groups that emerged following the Canterbury earthquakes. The inventory highlights emergent activity through the range of groups that developed. These groups emerged to help meet post-disaster needs such as “food provision, accommodation relief or information dissemination”, other activities included “events, protests, publications” (p.3).

Another study that Vallance (2011) conducted, examined three emergent groups that included the Canterbury Communities Earthquake Recovery Network (CanCERN), an advocacy group that promoted community inclusion of the recovery process, Gap Filler and Greening the Rubble, whose effort concentrated on temporary urban regeneration and greenery installations on sites that became vacant from the impacts of the earthquake. The case studies of these groups illustrated challenges encountered in the recovery phase. These challenges included: a need for resources; slow access to information, in part due to inadequate pre-disaster communication mechanisms; the complexity and enormity of the recovery which overall was identified as problematic and messy; and a lack of pre-existing relations between the recovery authorities and the public.

Another study on emergent groups in Canterbury by Paton, Mamula-Seadon and Selway (2013) examined emergent groups in relation to community resilience. People, neighbourhoods and communities individually and collectively engaged in response and recovery during the 2011 earthquakes. In particular, neighbourhood groups emerged and tasked themselves with securing basic resources (for example, food and water) for people in need and offering support to those who have specific needs. Active engagement in the recovery and a sense of connectedness through engagement, helping others and participation in group activities (such as problem solving and planning) were important in contributing to resilience (Paton, Mamula-Seadon & Selway, 2013).

Other authors have highlighted resilience in relation to people and communities responding, engaging and adapting to disaster impacts (Humphrey, Mitchell & McBride, 2011; Thornley, Ball, Signal, Lawson-Te Aho & Rawson, 2015). Humphrey, Mitchell and McBride (2011) suggested that the Student Volunteer Army, another emergent group in Canterbury, aided in fostering community resilience by helping residents adapt to difficulties the earthquakes had caused. While these studies of emergent groups did not focus on lessons learned, their emphasis on function, activities and challenges they experienced highlight the need to pay attention to and incorporate a consideration of these into an account of emergent group learning. The next section examines historical examples of emergent behaviour.

### *Historical examples of emergent behaviour after disasters*

In the international literature, historical examples of emergent behaviour after disasters have been observed (Orloff, 2011; Quarantelli, 1995; Tierney & Goltz, 1997). Quarantelli (1995) suggested that there has been a long history of anecdotally documenting of new and informal groups emerging during disasters. Historical observations of ad hoc groups emerging following a disaster goes back to antiquity and ancient civilisations. People in times of crises have banded together to help one another. An example of emergent behaviour in ancient Rome includes slaves forming the first fire-fighting service called the Familia Publica; this later led to an established

fire service called the Corps of Vigiles, after a major fire in 6 A.D. nearly burned a quarter of Rome. Another example of emergent behaviour occurred in 1859, a battle in Solferino, Italy resulted in tens of thousands of soldiers injured, without medical care. Henry Daunt organised aid for the injured soldiers, which led to the emergence of an organisation that further provided aid and medical care for people wounded in battle. This organisation is recognised today as the International Committee of the Red Cross. In Chicago 1871, a fire broke out and caused extensive damage. In the aftermath of the fire citizens came out and worked to rebuild the city (Orloff, 2011).

Emergent behaviour was also demonstrated in the Kobe, Japan earthquake in 1995, which resulted in 6,279 people dying, with the majority of these deaths resulting from collapsed buildings. Following the earthquake, spontaneous volunteering and emergent group activity was widespread and contributed to various aspects of the recovery effort such as offering goods and services to victims (Tierney & Goltz, 1997). We can then say that as examples of emergent behaviour throughout history have demonstrated the prevalence of emergent behaviour in disasters, a closer study of these groups and their engagement in disasters may uncover important new knowledge and lessons. In the next section, literature on the formation of emergent groups is presented.

### *Formation of emergent groups*

The literature identifies that there are a range of factors that lead to the formation of emergent groups. These factors relate to particular conditions being required to facilitate emergent behaviour (Gardner, 2013; Majchrzak, Jarvenpaa & Hollingshead, 2007; Quarantelli, 1987; 1995). Conditions include social and/or environmental instability (Gardner, 2013), intensifying disaster impacts (Dynes, 1970; Neal, 1983) failings or breakdowns in disaster management and an urgency and need to intervene (Auf der Heide, 1989; Drabek, 1986; Gardner, 2013; Majchrzak, Jarvenpaa & Hollingshead, 2007; Palmer & Sells, 1965; Parr, 1970; Quarantelli, 1995; Stallings, 1978; Stallings & Quarantelli, 1985). Emergent group behaviour can occur when demands exceed the capabilities of disaster management organisations. Communication breakdowns and a lack of information sharing can also result in

emergent group behaviour (Auf der Heide, 1989; Drabek, 1986; Orloff, 2011; Palmer & Sells, 1965; Parr, 1970; Stalling, 1978; Stallings & Quarantelli, 1985). Issues with officials and authority figures regarding disaster management approaches can influence emergent behaviour (Quarantelli, 1984). Negative perceptions of the disaster situation and unmet needs of those impacted can also generate emergent group behaviour in response (Dynes & Quarantelli, 1968; Majchrzak, Jarvenpaa & Hollingshead, 2007). The points these authors raise are useful in terms of the thesis because they are a reminder to identify and consider which particular factors influenced the set up of emergent groups when developing an account of the lessons they learned. The next section considers literature on the characteristics of emergent groups.

### *Characteristics of emergent groups*

In the literature, emergent groups are comprised of citizens who operate in pursuit of shared objectives related to potential and actual disasters. According to Stallings and Quarantelli (1985) groups are considered to be emergent in two respects, first, the relationship among people who have come together to pursue a collective goal reflects a newness that did not exist prior to the disaster. Second, tasks are undertaken with the aim of pursuing these goals, which are new for the individuals. Quarantelli (1984) suggested that emergent groups are made up of three general types of participants including: a small core group of people who are active and a second larger supporting group of people that can be assembled to perform particular tasks. Often, there is also a large number of mainly nominal supporters who might donate money, attend meetings and receive newsletters. Those that participate in emergent groups are often people who live in the area that has been impacted by the disaster (Dynes, 1970; Quarantelli, 1984).

Majchrzak, Jarvenpaa and Hollingshead (2007) characterise emergent groups as collective individuals in non-routine organisational arrangements who utilise non-routine resources and engage in activities, which are applied to non-routine domains and tasks. A feature of emergent groups is that they are autonomous and are not subject to being taken over by existing organisations (Quarantelli, 1984). Quarantelli

(1999) suggested that a common characteristic of emergent groups is that they form new methods and ways of doing things. In this section, authors point out how specific emergent groups experience newness and autonomy, which is important to consider in this study because it may influence post-quake groups experiences of learning. These studies emphasise the need to consider these dimensions in a study of lessons learned. The next section focuses on how emergent groups are structured.

## *Structures*

In the literature it is suggested that emergent groups are structured differently from pre-existing and established groups. Emergent groups are spontaneous, flexible, informal, and they create new structures (Campbell, 2010; Dynes & Quarantelli, 1968; Wachtendorf & Kendra, 2004). Stallings and Quarantelli (1985) proposed that emergent groups lack formalisation and tradition. However, Forrest (1979) and Quarantelli (1984) suggested that, depending on the group's lifespan, emergent groups can develop structure if such groups exist long enough. Emergent groups can also attain a degree of legitimacy or may become legitimised (Quarantelli, 1984). Processes of legitimisation can occur through emergent groups being recognised by those in positions of authority such as the police department (Quarantelli & Dynes, 1970; Stallings & Quarantelli, 1985). In this section authors discussed the ways emergent groups are structured, which is identified as an important aspect of these groups. The structure of emergent groups may influence these groups experiences and the types of lessons they learn. Therefore, structure is a factor to consider when generating an account of emergent group learning. The following section presents literature on a typology of group organisation and behaviour in disasters.

## *A typology of organised group behaviour in disasters*

The literature on emergent group behaviour in disasters often highlights the typology of organised behaviour that was established by the Disaster Research Center (DRC) in the United States (Dynes 1970; Quarantelli, 1984; Quarantelli & Dynes, 1977; Wachtendorf, 2004; Webb 1999). The typology classifies organisations and

organisational behaviour into four forms: established, extending, and expanding organisations, and emergent groups (see Provitolo, Dubos-Paillard & Muller, 2011; Quarantelli & Dynes, 1977; Webb 1999). According to this typology, emergent groups perform non-regular/new tasks with new structures (Provitolo, Dubos-Paillard & Muller, 2011; Quarantelli & Dynes, 1977; Webb 1999). This typology has been used as a method to conceptualise emergent group behaviour (Drabek, 1970; Majchrzak, Jarvenpaa & Hollingshead, 2007; Provitolo, Dubos-Paillard & Muller, 2011; Quarantelli & Dynes, 1977; Stallings & Quarantelli, 1985; Webb 1999).

Despite the popularity of the DRC's typology, according to Wachtendorf (2004), the typology does not account for the different forms of emergence in disasters. There is no differentiation between different kinds of non-routine structures and tasks. Wachtendorf re-examined the DRC typology in her study of organisations and their engagement in research into the World Trade Center disaster. Wachtendorf used the concept of improvisation rather than emergence and specified three forms of improvisation, including reproductive, adaptive, and creative. Reproductive improvisation includes organisations improvising and making do. Adaptive improvisation includes pre-existing or improvised organisations adapting and adopting novel alternative approaches. Lastly, creative improvisation involves organisations employing creative improvisation to form new courses of actions (see Wachtendorf, 2004). Wachtendorf's (2004) research provided an account of the different types of emergence or improvisation in disasters. The authors in this section discussed understandings of emergent group behaviour and the forms of emergence that are identified to be important to the structure and functioning of the group. The organisation and behaviour of emergent groups is an aspect to consider when examining the lessons of emergent groups. The following section considers the lifespan of emergent groups.

### *Life span*

In the literature emergent groups are often observed as being a temporary collective that performs ephemeral tasks (Drabek & McEntire, 2003; Majchrzak, Jarvenpaa & Hollingshead, 2007; Quarantelli, 1984). Emergent groups can be temporal in that they

exist for a few days to a few years (Campbell, 2010; Lanzara, 1983; Stallings & Quarantelli, 1985). During the Canterbury earthquake some emergent groups developed to perform specific tasks (food and information distribution, cleaning up the rubble) after which they disbanded. Other groups emerged and have maintained their existence for a few years. Some even exist today. One such group is the Student Volunteer Army in Canterbury (Vallance & Carlton, 2013). In this section, the authors provide some insight into the lifespan of emergent groups, which is a factor to consider when generating an account of the disaster lessons of emergent groups in Canterbury.

The literature review will now move on to discuss bureaucracy and then leadership, which are both identified as significant dimensions of social organisation, and are relevant to understanding emergent organisations. The next section introduces a sociological understanding of bureaucracy as it plays a part in the shaping of emergent organisations.

## *Bureaucracy*

In the literature, bureaucracy is understood to be an important feature of organisations/groups in society (Brouillette & Quarantelli, 1971; Clegg, 1994; Courpasson & Reed, 2004; Handel, 2003; Hull, 2012; Thompson & McHugh, 2003). Much of the sociological literature on bureaucracy draws on Max Weber; the German sociologist's work on bureaucracy has significantly influenced the sociology of organisations. Weber's (1978) concept of bureaucracy refers to organisations as unitary systems of shared action. Weber noted that organisations are marked by administration, written rules and regulations, hierarchical, specialisations and impersonal features (Brouillette & Quarantelli, 1971).

The literature on bureaucracy and disasters often highlights the challenge of their coexistence (Kweit & Kweit, 2006; Phillips & Neil, 1995; Quarantelli, 1999). Generally, bureaucracy is rigid and does not have the flexibility required to respond to unstable, unpredictable and chaotic environments that disasters create (Phillips & Neil, 1995; Quarantelli, 1999). Similarly, Takeda and Helms (2006) contended that



public and private disaster response organisations are highly bureaucratic in their form and function. A key element of bureaucracies in disaster management is the focus on formal rules and procedures. Because bureaucratic methods are codified, they often are not designed to respond to disasters, which can require fluid structures and procedures. Phillips and Neil (1995) noted that inadequate disaster response emerges out of a gap between bureaucratic and emergent norms following disasters. Managing disasters can be a challenge for complex public bureaucracies (Hynes & Prasad, 1997). Takeda and Helms (2006) suggested that during the relief efforts for Hurricane Katrina it was difficult for the bureaucratic management systems in place to manage such a complex disaster. Bureaucratic systems were slow to respond and failed to take swift and decisive action, which resulted in death and major destruction. Takeda and Helms (2006) further noted that the bureaucratic system denied help offered by sources outside the system. This caused the loss of supplies and services, which could have helped people in a timelier manner. The bureaucratic system was ill-equipped and produced inadequate responses after Hurricane Katrina. Similarly, Phillips and Neil (1995) suggested that bureaucracy was an issue for victims of Hurricane Andrew in Florida, United States particularly around housing, as people's needs were unmet. However, emergent groups appeared "to catch those who fell through the cracks" (p.330).

Emergent groups develop and function in environments with pre-existing bureaucratic norms. Bureaucracy is highlighted as a challenge for emergent norms, which includes emergent groups in disasters. This is because emergent norms tend to be incompatible with bureaucratic rules and processes (Kweit & Kweit, 2006; Phillips & Neil, 1995; Schneider, 1992). Kweit and Kweit (2006) suggested that bureaucratic norms can make it challenging for citizens to effectively participate in disaster recovery. According to Schneider (1992) if there is a wide gap between bureaucratic disaster management and people's participation in disaster recovery then often this can be considered a failed attempt at disaster management. Schneider also suggested that emergent norms can be supportive of bureaucracies and existing behaviour patterns. Hurricane Hugo in North Carolina presented an example of there being virtually no gap between emergent norms and bureaucracy because emergent norms accommodated existing policies and procedures. In this section it was pointed out that

bureaucracy was generally a challenge to emergent norms and groups and this is worth considering when creating an account of lessons learned by emergent groups.

## *Leadership*

Another aspect of social organisation that relates to emergent groups is leadership. Slater (1995) explores the sociology of leadership through four perspectives that include “(a) structural-functionalist, (b) political-conflict, (c) constructivist, and (d) critical humanist perspectives” (p.450). A structural-functionalist perspective of leadership can be understood through a measurable set of behaviours or abilities. Leadership is required if collectives are to be effective and efficient. From a political-conflict perspective, leadership is not thought of as a behaviour and skill, rather it is understood through power relationships where some groups are dominant and others are subordinate. Political-conflict theorists focus on power relations in society and structures of domination (Slater, 1995). From a constructivist approach any behaviour can pass as leadership behaviour if particular conditions are met, the key one being the meaning behind the action. A critical humanist perspective is similar to the constructivists perspective in that it tends to centre on symbolic features of leadership and considers social structure to be socially constructed. These theoretical perspectives influence how we understand leadership (Slater, 1995).

In the literature on disasters, leadership is often evaluated in terms of its success or failings (Demiroz & Kapucu, 2012; Hannah, Uhl-Bien, Avolio & Cavarretta, 2009; Kapucu, & Van Wart, 2008). Kapucu and Van Wart (2008) suggested that leadership can make a significant difference in managing disaster events. Good leadership can minimise disaster impacts and weak leadership can make the situation worse, causing greater damage. Leaders can minimise or maximise trigger disasters events through their actions and capabilities of dealing with the disaster and impact. According to Demiroz and Kapucu (2012) in the case of Hurricane Katrina, disaster management leaders were caught by surprise, which paralysed response and this led to chaos. The poor leadership and a lack of critical competencies important in disaster management maximised the disaster event.

Major disasters can entail that need for additional leadership abilities because such events can overwhelm local abilities and disaster response (Kapucu & Montgomery, 2008). Emergent leadership can occur through spontaneous groups that emerge during disasters. Emergent leadership can appear to fill roles where there is absence or where official leaders fail (Kapucu & Montgomery, 2008; Lanzara, 1983; Wallace, 1956). Comfort and Okada (2013) suggested that following disasters in both Haiti and Japan, there were gaps in official leadership that led to emergent leadership. After the Haiti earthquake, groups emerged and led in domains where there was a need. In Japan, following the nuclear disaster in Fukushima Prefecture, farmers led by determining radiation levels in crops by obtaining Geiger counters. An absence of clear leadership structures and well-established direction to guide post-disaster behavior can lead to improvisation through emergent leadership (Comfort & Okada, 2013; Gardner, 2013). This section covered a discussion of leadership as an important aspect of social organisation and disaster management. It was also pointed out that failed leadership from officials in a disaster is a factor that influenced the emergence of these groups, which is a useful aspect to consider in this study of emergent groups disaster lessons.

The literature on emergent groups reviewed so far provides an understanding of what emergent groups are, what they do, their arrangement and their life span. The following section will present an overview of the literature on disaster lessons along with literature on organisational and emergent group learning. This will then be followed by literature examining criticism directed at disaster lessons and the challenges of learning and implementing lessons.

## *Disaster lessons*

In the literature disasters are presented as an opportunity to learn. The literature on disaster lessons is often referred to or understood as a practice of disaster management (Coppola, 2011; Pathirage, Seneviratne, Amaratunga & Haigh, 2012; Van De Walle, Turoff & Hiltz, 2014). Disaster lessons in general can be understood as a practice through which new knowledge is generated through disaster experiences (Birkland, 2009; Donahue & Tuohy, 2006; Krausmann & Mushtaq, 2006; Pfister, 2009). Birkland (2009) suggested that disasters offer a chance to closely analyse the pre-

disaster period, the disaster and the recovery phase of these non-routine events. Plumper, Flores and Neumayer (2017) noted that observing disaster events presents an opportunity to learn about how these events were managed, how to reduce damage and how the worst impacts of the event can be prevented in the future (Birkland, 2009). Pfister (2009) contended that disaster lessons are a method of learning that is directed towards deterrence or adaption to disasters with regards to managing these events. Disaster lessons can enhance knowledge about effectively managing disasters (Pathirage, Seneviratne, Amaratunga & Haigh, 2012). According to Donahue and Tuohy (2006) learning is essentially a practice of growth, to learn a disaster lesson means committing to change.

Disaster lessons in particular are often generated during response and recovery phases (Coppola, 2011; Kulwinder, 2006; Pathirage, Seneviratne, Amaratunga & Haigh, 2012; Van De Walle, Turoff & Hiltz, 2014). Kulwinder (2006) noted that, in the response stage it is common to build new knowledge and capture information for later response efforts. Coppola (2011) suggested that during the response phase assessment reports, commonly called situation reports, are generated. One type of these reports is the final report, which is often a summary and reporting of the response and any disaster lessons learned during the response. Several authors have drawn on the disaster recovery phase being a time where disaster lessons can be generated and applied (Coppola, 2011; Pathirage, Seneviratne, Amaratunga & Haigh, 2012; Van De Walle, Turoff & Hiltz, 2014). Pathirage, Seneviratne, Amaratunga and Haigh (2012) noted that the recovery stage can include collecting, storing and accessing information in a systematic way and then sharing such information. Van De Walle, Turoff and Hiltz (2014) contended that a part of recovery is generating disaster lessons that can aid in managing the recovery process. Coppola (2011) suggested that the recovery phase can be a rare opportunity where lessons can be applied. Coppola further noted that generating and recognising lessons provides an opportunity to improve and plan for the next disaster. Disaster lessons present themselves to be an important part of the cycle of disaster management (Pathirage, Seneviratne, Amaratunga & Haigh, 2012).

Additional systematic ways of sharing disaster lessons were presented by Donahue and Tuohy (2006) and Featherstone (2014). Donahue and Tuohy (2006) suggested that disaster lessons are generated and shared through lessons learned and after- action

reports, reviews and debriefings after disaster events. Donahue and Tuohy outlined a common process of identifying disaster lessons, which is made up of three core parts that include: “1. evaluating an incident (through systematic analysis of what happened and why); 2. Identifying lessons (strengths to be sustained and weaknesses to be corrected); and 3. Learning (specifying and inculcating behavioral changes consistent with the lessons)” (p.3). Similarly, Featherstone’s (2014) cycle of learning is made up of three parts. The first includes finding and generating knowledge, which can be constructed through after-action reports and reflections. The second is organising knowledge and information. The third includes sharing knowledge. In the literature, disaster lessons are associated with disaster management as a practice where lessons are generated and shared through after-action reports. Disaster lessons as an aspect of disaster management is therefore an element to consider when generating an account of the disaster lessons of emergent groups because it may have been a factor that has influenced these groups disaster lessons.

The following section will examine another aspect of disaster lessons and that is how organisations and emergent groups learn along with theoretical understandings of learning.

## *Organisational learning*

Organisational learning literature is a dimension associated with disaster lessons and emergent groups. The literature on organisational learning can help us understand how emergent groups learn. In the literature organisations and how they learn is debated. There is disagreement on whether organisational learning occurs naturally through the organisations lives or whether learning takes place in the minds of people in organisations (Boje, 1994; Easterby-Smith & Lyles, 2011; Gherardi & Nicolini, 2001; Gherardi, Nicolini & Odella, 1998; Keeffe, 2002; Levitt & March, 1988; Popova-Nowak & Cseh, 2015). Gherardi, Nicolini and Odella (1998) suggested learning is both a cognitive and social practice. However, learning is often conceived to be a cognitive process. Birkland (2006) drew on Sabatier’s (1987) suggestion that individuals learn cognitively and that organisations learn figuratively as they do not have cognitive abilities like humans. According to Easterby-Smith and Lyles (2011)

social interaction in organisations stimulates learning naturally. Learning transpires through the nature of organisational life. Boje (1994) argued that all organisations learn and that their learning course has been developing over several centuries. Levitt and March (1988) opined that organisations learn by “by encoding inferences from history into routines that guide behaviour” (p.517).

In the literature on organisational learning, single and double loop learning is often referenced (Argyris, 1976; Argyris & Schon, 1996; Corbacioglu & Kapucu, 2006; Huber, 1991; Kaliner, 2013; Lahteenmaki, Toivonen, & Mattila, 2001; Popova-Nowak & Cseh, 2015). Single loop learning is a consequence in developing a basic connection between behaviours and outcomes, environment adaption and refining organisational efficiency. Argyris and Schon, 1996 and Popova-Nowak and Cseh (2015) suggested that single loop learning occurs when organisational feedback prompts shifts in strategy. Kaliner (2013) contended that single loop learning is concerned with quick fixes.

In contrast to single loop learning; double loop learning involves looking more deeply into the problem. Popova-Nowak and Cseh (2015) noted that double loop learning can be understood to be of higher quality learning where organisations restructure their knowledge, memories and develop new capabilities. According to Kaliner (2013) double loop learning involves thinking more deeply about assumptions, values and beliefs. Double loop learning in an organisation means modifying norms, policies and culture. This type of learning is concerned with the larger context. Corbacioglu and Kapucu (2006) drew on single and double loop learning in their examination of organisational learning in the earthquakes that occurred in Turkey between 1992 and 1999. In their study no significant learning occurred in the Erzincan 1992, Dinar 1995 and Ceyhan 1998 disasters and this was suggested to be because of single loop learning. However, the Marmara earthquake of 1999, incorporated a pattern of double loop learning, which led to organisational, technical and cultural changes to disaster management, which was revealed following the Duzce earthquake. However, loop learning has been critiqued in the literature (Huber, 1991; Kaliner, 2013; Lahteenmaki, Toivonen, & Mattila, 2001). These authors have suggested that there is a lack of empirical testing and this perspective emphasises individuals’ learning rather than the learning of the organisation itself.

Paradigms or perspectives influence our understanding of organisational learning and this can be seen in Popova-Nowak and Cseh (2015) research as they explored organisational learning from a functionalist, social constructionist and postmodernist perspective. Popova-Nowak and Cseh (2015) contended that the functionalist perspective is commonly used in organisational learning studies. From a functionalist viewpoint, organisational learning is information processing in organisations. From this perspective, people are key in generating, interpreting, circulating and retrieving information in organisations. Organisational learning levels of analysis are linked by people interacting within organisational structures that offer a body of reference for individual cognitions and behaviours. A weakness of the functionalist perspective is the anthropomorphisation of organisational learning, which glosses over how organisations learn because emphasis is placed on how members learn (Keeffe, 2002; Popova-Nowak & Cseh, 2015).

From the constructionist perspective, Popova-Nowak and Cseh (2015) suggested that learning transpires through informal interactions in shared networks that hold their own power balance. Language is a central component of organisational learning because through language people express their practices, develop reference points, symbols and inter subjectivity. According to Gherardi and Nicolini (2001) from a social constructionist approach learning does not take place exclusively or primarily in the minds of people. Rather, it comes from the participation of people in social activities. Criticism of this perspective can include researchers not considering the environment to be an independent and an important factor to organisational learning. Researchers can also underestimate constraints imposed on people by organisational structures (Popova-Nowak & Cseh, 2015).

From a postmodernist perspective organisational learning is made up of multiple and complex realities that are constructed through discourses. This perspective can include for instance a Foucauldian understanding of organisational learning as a set of power/knowledge discourses (Popova-Nowak & Cseh, 2015). Gherardi and Nicolini (2001) suggested organisational learning can be viewed as a discursive practice where reality is a product of discursive practices and organisational learning is a specific account of an organisation. Gherardi and Nicolini (2001) further noted that

organisational learning develops out of power/knowledge relations. Foucauldian understandings of power/knowledge challenge the reality of universal applications to knowledge; learning itself is bound to knowledge and its production. Attempts made to label something as knowledge are produced by a certain social group that belongs to a network of power relations. Any learning, whether it is organisational or not, is tied up with knowledge production (Gherardi & Nicolini, 2001). Criticism directed at the postmodernist paradigm is a lack of empirical studies. Part of this criticism arises out of the narrow view of “empirical”, however, researchers can be faulted for doing numerous conceptual studies without field work, which leads to the criticism that postmodernist studies are often theoretical and remain esoteric (Alvesson & Deetz, 1996).

In this section of organisational learning a discussion of different perspectives was presented, which is useful for this thesis in terms of understanding how emergent groups may learn. There was a discussion on the limitations of various perspectives which is likewise useful in terms of weighing up the different perspectives. Social constructionist and postmodernist perspectives would be suitable approaches to understand how emergent groups learn. As pointed out in the critique the functionalist approach places emphasis only on how members in the group learn, whereas the social constructionist postmodernist perspective places emphasis on both group learning and members learning. Learning and lessons is also considered a social construction of discourses, which can be used to understand how lessons of emergent groups are constructed.

### *Emergent group learning*

In the literature very little focuses specifically on emergent groups learning in the disaster context. However, some literature does briefly touch on specific emergent group learning (Lanzara, 1983; Majchrzak, Jarvenpaa & Hollingshead, 2007). Easterby-Smith and Lyles (2011) suggested that learning occurs naturally in emergent groups. Majchrzak, Jarvenpaa and Hollingshead (2007) noted that learning by doing is an approach to emergent group learning in disasters. Learning by doing is an organisational learning mechanism that occurs through experience, trial and error



(Levitt & March, 1988; Majchrzak, Jarvenpaa & Hollingshead, 2007). Learning can occur through emergent groups flexible organisational functioning where innovation is fostered (Majchrzak, Jarvenpaa & Hollingshead, 2007). According to Birkland (2006) and Jumara (2005) innovation is a form of learning. Innovation involves change, new ways of understanding and seeing possibilities. It can involve turning failures into successes and acting in original ways. Lanzara (1983) suggested that when emergent groups dissolve, what they have learned and documented becomes embedded in the memories of members and can be exchanged in the community or these lessons can gradually become lost. This section covered a discussion of emergent group learning. This small section provides insight into the ways these groups learn, which is useful to consider in a study of emergent groups lessons learned.

In overview, the literature on disaster lessons gives insight into disaster lessons as a practice of disaster management along with theoretical insights into organisational learning with a small amount of literature presented on the disaster lessons of emergent groups. Moving on from this, the review considers risk as it is identified as a dimension of disaster lessons and its practice.

### *Risk and disaster lessons*

In the literature, risk is understood to be a concept linked to disaster lessons (Birkland, 2009; Floristella, 2016; Hasegawa, 2012; Ibrion, Mokhtari & Nadim, 2015). Much of the sociological literature on risk draws on the work of German Sociologist Ulrich Beck. Throughout Beck's (1992; 98; Beck & Holzer 2007) work he argued that natural disasters and pre-industrial hazards, no matter the size or devastation were an occurrence of fate that rained down on mankind from the outside or was attributed to an "other", be that gods or nature. However, in Beck's later work he argued that natural disasters today appear less random and to a certain extent they are not reliant on external powers any longer. For example, natural disasters are understood to be linked to environmental issues that are influenced by human activity; these issues include urbanisation, climate change and pollution (Floristella, 2016).

According to Beck (1998) we live in a risk society; societies dominated by the idea of risk. Beck, suggested that risk is manufactured by potential uncertainties that are constructed within public discourse. The framework of risk offers an entrance point to examine societies and how they organise and respond to risk (Floristella, 2016). One way risk is responded to is through disaster lessons. In the literature, disaster lessons are presented as a form of risk reduction (Floristella, 2016; Ibrion, Mokhtari & Nadim, 2015). Ibrion, Mokhtari and Nadim (2015) contended that disaster lesson practices have become an important matter for risk reduction. This is because the practice of documenting and identifying disaster lessons attempts to reduce risks by learning from the worst impacts experienced in a disaster to avoid them in the future (Birkland, 2009; Donahue & Tuohy, 2006; Pathirage, Seneviratne, Amaratunga & Haigh, 2012; Pfister, 2009).

According to Boin and Hart (2003) risk society is characterised by a gap between citizens and their expectations of the state and their efforts to prevent and contain crises. Leaders often attempt to learn lessons after a disaster, however, often leaders get caught up in a game of politics to which learning gets encumbered. Boin and Hart (2003) suggested that leadership during the time of a disaster often gets questioned in terms of response; the answer to these questions often determines the lessons that are drawn on to prevent such reoccurrences. In contemporary society, negative disaster experiences are portrayed as policy failures. Policy makers respond through defensive routines such as passing on the blame and denying accountability, along with improving their communication skills instead of focusing on learning lessons that are afforded by the crisis and reducing risk.

Another example of the failings of disaster lessons and risk reduction comes from Ibrion, Mokhtari and Nadim (2015) who suggested that one of the reasons why disaster lessons are still practiced is because lessons from past disasters have not been learned from or implemented into risk reduction practices. They highlighted this with disaster lessons from earthquakes in Iran including Tabas in 1978, Rudbar in 1990, and Bam in 2003. Ibrion, Mokhtari and Nadim found that few lessons from these earthquakes had been applied to disaster management practices or had contributed to risk reduction. Many of the lessons from these earthquakes were not learned from and were identified again in other disaster contexts in Iran. In the literature, disaster

lessons can be understood as a form of risk reduction, which is another aspect to consider when forming an account of emergent groups disaster lessons. The following section considers criticisms of the practice of documenting and identifying disaster lessons that have emerged in the literature.

### *Disaster lesson critiques*

There are various critiques that have been levelled at the concept of disaster lessons. These include issues around pressures to learn (Birkland 2009), the methodology or lack of it in disaster lesson studies (Alexander, 2012, Donahue & Tuohy, 2006; Kaliner, 2013), the complexity of real learning (Birkland, 2006) and disaster lessons being identified and then disregarded and forgotten (Alexander, 2012; Birkland, 2006; Ibrion, Mokhtari & Farrokh, 2015).

Alexander (2012) suggested that although there are numerous documents, books and reports that identify, document and discuss disaster lessons, there are very few that actually include any methodology or measures to demonstrate these lessons or learnings. Donahue and Tuohy (2006) suggested that there are insufficient formal and systematic methods for identifying and disseminating lessons. Kaliner (2013) similarly noted that not much is known about how these disaster lessons learned really work at a theoretical level. It can be said then that the practice of lessons learned is not grounded well in the literature on learning and much of the literature on disaster lessons is dependent on untested claims. Kaliner, further suggested that there is a serious problem in relation to literature on disaster lessons and that is that researchers are often unable to explain how people learn in these contexts.

Taking a closer look at these reports, Birkland (2009) draws on five possible broad patterns of disaster “lessons learned” and highlights the ineffectiveness of most of these processes and reports. In the first pattern, a disaster event occurs and then change occurs with little or no attempts made to learn from the event. An example of this includes the Patriot Act in the United States. This Act was generated quickly after the September 11 attacks, without efforts to see if the policy tools would be useful in preventing terrorist attacks. The second pattern, an event occurs and is investigated

but it serves the agency, it is incomplete or expresses the obvious, without evidence or any serious attempts to learn. Thirdly, an investigation occurs after an event and this leads to a change in policy but this change is not connected to the investigation or the change of policy does not reference the changes recommended by the investigation. In the fourth pattern, an event occurs along with a careful investigation but with no policy change because of cost, bureaucratic delays or political resistance. The fifth and final pattern involves a careful investigation of the event that results in policy change because of the investigation, evaluation and policy design. Birkland used the example of the Columbia Accident, the incident was investigated, which led to changes at the National Aeronautics and Space Administration (NASA) that were a result of the report. The first four patterns of “lessons learned” processes and reports were suggested by Birkland (2006) to be fantasy learnings that generate fantasy documents. The fifth example, however, models instrumental learning, which Birkland suggested was rare. Many processes that generate disaster lessons and the documents themselves are reflections of the group or institutions construction of a problem and the population it is targeting. Often learning is resisted because of the cost, feasibility or bureaucratic and political obstacles. Real learning is not common, though some sincerely believe in the process and intend to learn (Birkland, 2006).

Another critique in the literature presented by Alexander (2012); Donahue and Tuohy (2006) and Ibrion, Mokhtari and Farrokh (2015) who noted that many disaster lessons are lodged and are then disregarded, ignored or are simply forgotten over time with vulnerabilities often reoccurring in a similar way following the next disaster. Various excuses come with these forgotten or ignored lessons, such as the cost or complexity of implementing the lesson and often the responsibility is passed on, and so on. Krausmann and Mushtaq (2006) noted that lessons from past events keep being identified anew because they have not been learned from or publicised in any systematic way. An example of a failed lesson is the disaster of the Costa Concordia cruise liner that capsized and sank on the coast of Giglio in Italy. Natural obstacles were met with risky navigation and a careless attitude towards evacuation procedures that resembled “Titanic syndrome”. A century of lessons in overconfidence and safety measures of luxury liners had not been learned from (Alexander, 2012, p.1). According to Donahue and Tuohy (2006) disaster lessons are ignored on a daily basis, and uses the example of firefighters in the United States who continue to be killed

despite numerous reports because often we look to the big lessons and fail to recognise the small lessons and apply them. Alternatively, disaster lessons are not learned and mistakes reoccur in subsequent disasters. This suggests that although lessons are identified in reports; actual learning is complex.

In some of literature there is a distinction between disaster lessons and lessons learned and this is reflected in the following critique that is centred at the practice of documenting and identifying disaster lessons. According to Birkland (2009) there are both social and political pressures to generate disaster lesson reports and to learn from disasters. However, such pressures mean that disaster lesson reports are often generated quickly, it is difficult to make claims that any real learning has taken place because an insufficient amount of time has passed between the disaster and the report creation and there are few preceding tests of such lessons. Glantz and Kelman (2013) suggested that to actually learn from these lessons, change needs to occur for the better. This section has pointed out the various critiques of disaster lessons, which is an aspect to consider when creating an account of the lessons of emergent groups.

## *Critique of the literature*

The literature reviewed to this point presents two major gaps in the literature. The first gap is the absence of literature on the disaster lessons of emergent groups and the second is a theoretical gap of postmodernism particularly that of a Foucauldian perspective. In the literature much of the focus is on the formation of emergent groups (Gardner, 2013; Majchrzak, Jarvenpaa & Hollingshead, 2007; Quarantelli, 1987, 1995), their characteristics (Dynes, 1970; Majchrzak, Jarvenpaa & Hollingshead, 2007; Quarantelli, 1984; Stallings & Quarantelli, 1985), their structure and tasks (Campbell, 2010; Dynes 1970; Dynes & Quarantelli, 1968; Forrest, 1979; Stallings & Quarantelli, 1985; Wachtendorf, 2004; Wachtendorf & Kendra, 2004; Webb 1999). The literature does not consider the learning process of emergent groups along with how and what they learn in relation to disasters. This gap about the learning process of emergent groups is an issue because it highlights a disconnect between how societies and communities tend to respond to disasters and how they understand their responses.

In the literature there is a theoretical gap of the postmodernist perspective particularly that of a Foucauldian perspective and the specific insights that this perspective can bring to an issue has yet to be applied to this concern. In the literature realism, symbolic interactionism and functionalism have been prominently used to study disaster behaviour, emergent groups and organisational learning (Argyris, 1976; Argyris & Schon, 1996; Corbacioglu & Kapucu, 2006; Drabek & McEntire, 2003; Huber, 1991; Kaliner, 2013; Keeffe, 2002; Lahteenmaki, Toivonen & Mattila, 2001; Mileti & Darlington, 1997; Pfister, 2009; Popova-Nowak & Cseh, 2015; Quarantelli, 1995; Tierney, 2007; Wachtendorf, 2004). When the literature is examined, it can be seen that it does not directly address the way that disaster lessons come to dominate thinking and activity associated with the post-disaster period, which suggested that something other than fostering response and recovery may be operating. A Foucauldian perspective can be used to address this gap on disaster lessons.

## *Conclusion*

In the review of relevant literature, it is apparent that there is a gap in the research on *how* and *what* emergent groups specifically learn in relation to disasters. Also missing in the literature is a direct focus on how disaster lessons dominate thinking and practices that are associated with the post-disaster period. Therefore, the thesis question is how do disaster lessons come to dominate thinking and practices associated with the post-disaster period. This thesis seeks to engage with this thesis question by conducting a Foucauldian analysis of disaster lessons, “lessons learned” discourses associated with the Canterbury earthquakes. The next chapter sets out the details of the methodological approaches adopted and the data gathering and analysis methods employed.

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## *3. Methodology*

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### *Introduction*

This chapter will provide a detailed account of the methodological approach taken, the research design and data gathering and analysis methods. The aim of this research was to examine disaster lessons as a prevailing discourse that dominates some aspects related to the post-disaster period, with the disaster lessons of emergent post-quake groups used as a case study to illustrate this.

The chapter begins by outlining why a qualitative approach was chosen. This approach was employed to capture detailed data on the experience and understandings of disaster lessons by participants in emergent groups. This was followed by a discussion of the philosophical underpinning of this research, that being a social constructionist perspective. The social constructionist perspective was employed because it was seen to be the most effective way to examine how disaster lessons get constructed by emergent groups. Following this, the decision to use Foucault's genealogy and governmentality as analytical tools will be discussed. Foucault's genealogical method and concept of governmentality are used to explain how disaster lessons come to dominate ways of thinking and doing that are associated with post-quake groups and the post-disaster period.

The chapter then moves on to the application of these particular approaches with a discussion on semi-structured interviews and the interviewing process along with a discussion on the coding process and the structuring of the data. This research has employed a series of complementary perspectives, methods and analytical tools to better understand disaster lessons, their construction by emergent groups in Canterbury and how they come to dominate thinking sets and practices in the post-disaster period of the earthquakes.

## *Qualitative research approach*

A qualitative research methodology was chosen to generate accounts of disaster lessons by emergent groups'. This approach was employed to explore the complex and diverse meanings of disaster lessons through the lived experiences of participants (Bryman, 2004; Merriam, 2009). Qualitative research is useful because of its ability to generate data that is rich and specific to the research question (Tolich & Davidson, 2003). A qualitative approach was useful in terms of this research because this approach was able to provide insight into the different lessons learned by these groups along with how these groups understood and constructed disaster lessons (Denzin & Lincoln, 2000). A qualitative method of inquiry was the approach that best suited the research aims to examine the dominance of disaster lessons in the post-disaster period through the lessons of post-quake groups.

A quantitative approach would not have been appropriate for this research because post-quake groups' experiences cannot be sufficiently expressed numerically (Hancock, Windridge & Ockleford, 2007). There are various reasons for this lack of usefulness. According to Quarantelli (2001) there are issues around quantitative disaster research in terms of statistical validity and reliability along with poor conceptualisations about disasters. Denzin and Lincoln (2011) suggested that qualitative research is positioned in contrast to quantitative inquiries as qualitative research takes an explanatory, naturalistic approach to research topics. Qualitative researchers examine the subject matter in its natural setting and efforts are made to interpret the meanings that subjects apply to the subject matter whereas quantitative researchers study and make sense of phenomena through numerical and statistical methods and data.

Both qualitative and quantitative approaches can complement each other through mixed methods, as qualitative data can be employed to investigate quantitative findings and findings can be validated by employing both quantitative and qualitative data sources. However, a mixed method approach is difficult to implement and often relies on a multidisciplinary team of researchers, which is not possible for a master's research project (Wisdom & Creswell, 2013). This research therefore took a



qualitative approach because this approach is flexible and takes into account the complexity of incorporating real world context and attempts to broaden understandings of how things exist (i.e. disaster lessons) in our social world (Hancock, Windridge & Ockleford, 2007).

A critique that positivists make of qualitative approaches includes concern over the reliability of observations. This is because the positivist position posits there is no distinction between the natural and social world and they are dependable through measures of social life. However, from a qualitative approach once social reality is treated as always in flux, then it no longer makes sense to worry about the research being measured accurately. Quantitative research can overlook the differences between the natural and social world and can fail to recognise the meanings that can be brought to social life (Silverman, 2006). In this research it was important to recognise the meanings that members of post-quake groups had placed on their experience as disaster lessons were discussed. The aim was to gather rich data to explore the construction of post-quake groups disaster lessons and how these constructed lessons are employed.

This section on qualitative research indicates that a social constructionist perspective will be suited to this research as it is concerned with constructed realities of emergent groups' disaster lessons in Canterbury. In the next section, the social constructionist perspective will be discussed.

## *Social constructionist perspective*

This research sits within the theoretical perspective of social constructionism, which views reality as a construction and product of knowledge. Social constructionism was selected as the epistemological framework of this research because both this research and approach are concerned with the way knowledge is produced and situated in history and embedded in cultural values and practices (Galbin, 2014). From a social constructionist approach, “realities, meanings, experiences and so on” are the result of discourses operating in society (Braun & Clarke, 2006, p.9). This research in particular was interested in how post-quake groups construct disaster lessons

discourse along with how disaster lessons have come to dominate ways of thinking and doing associated with the post-disaster period.

Many researchers employing and examining the constructionist perspective draw on Berger and Luckmann's (1966) work in their book *The Social Construction of Reality* (Bolin & Stanford, 1998; Burr, 1995; Galbin, 2014). Berger and Luckmann's basic argument centred on the idea that reality is socially constructed and the sociology of knowledge examines the course of action that this construction occurs. Berger and Luckmann argue that people maintain social phenomena through social practices and that there are three processes that are responsible for this, which include externalisation, objectivation and internalisation. Externalisation occurs as people act on their world and produce some artifact or practice. Objectivation of an artifact or practice can develop as a truth, in the sense that it can become an objective feature that appears to be naturally existing in the world itself, rather than existing as a construct of human interaction. Artefact or practice can then become internalised, as people are born into the world where the artefact or practice already exists and this becomes internalised into their consciousness as part of their understanding of the world (Berger & Luckmann 1966; Galbin, 2014). This thesis applies a constructionist epistemology in that it views disaster lessons as a narrative that dominates understandings of the post- earthquake period, and that this narrative is experienced as if it is an inevitable process that is engaged in after a major disaster. Both the narrative and the experience of it as an inevitable process are interpreted by the researcher as socially constructed through a process of objectivisation and internalisation.

From a social constructionist perspective, disasters and the lessons learned from them are socially constructed as they have assigned meanings in the social word that people actively construct. Social constructionists seek to reveal how specific situations or practices that others have taken to be fixed, are actually a product of "sociohistorical and/or social interactional processes" (Holstein & Gubrium, 2008, p.14). A constructionist approach can draw attention to how disasters lessons are produced and take shape within social, political and institutional interactions (Van Heugten, 2014). Taking a social constructionist approach directed this research towards exploring the sociohistorical systems and practices that have constructed this practice and

influenced its dominance as a post-disaster activity. Along with how disaster lessons are created by emergent groups through social interaction.

The above discussion on social constructionism suggests that a Foucauldian approach will be suited for this research because both the methodological approach and the research aim are concerned with the construction of disaster lessons and how they are constituted and upheld through systems of meaning and social practices. In the following section, Foucault's genealogical method and theory of governmentality will be outlined along with an explanation for their use in this research.

## *Foucauldian discourse analysis*

A Foucauldian discourse analysis (FDA) was considered to be the most suitable analytical approach. There were two reasons for this, the first is that a FDA allowed the researcher to identify the construction of disaster lessons by emergent post-quake groups. Secondly, a FDA was useful for examining how particular ways of understanding come to dominate ways of thinking and doing. Also, in the review of relevant literature, a theoretical gap was found relating to the application of a Foucauldian perspective to this research area, which this thesis will help fill.

Within social science, Michel Foucault's work as a philosopher and historian is well recognised, particularly for his genealogical method and his work on power/knowledge and governmentality. Foucault established and tested his ideas through analytical studies such as *Discipline and punish* (1977), *Governmentality* (1979) and *Security, territory, population* (1977-1978). However, Foucault never specified any set of guiding principles for a complete final methodology; Foucault was open to ongoing improvements and adaptations of his methodology with the aim of achieving various projects (Fadyl, Nicholls & McPherson, 2013). Therefore, it is suggested that the key to vigorous research utilising Foucault, was to employ his work in an applicable way to the specific inquiry at hand, to ensure that the way it is used is demonstrated to have a logical link to Foucault's theoretical and philosophical objectives and approaches (Fadyl, Nicholls & McPherson, 2013). Authors who have employed Foucault's methods in their work including Joseph (2013a; 2013b); Lemke

(2000) and Rose (1999) have been utilised to better understand Foucault's analytical approaches.

From a Foucauldian approach, the concern is not just about what disaster lessons discourses articulate, but also the consequences of these discourses and how these discourses influence and shape practices and actions of post-quake groups (Fadyl, Nicholls, & McPherson, 2013). For Foucault, discourses are produced through local discourses, events and cultural beliefs that shape reality (Jian, Schmisser & Fairhurst, 2008). Discourse constructs the topic, the procedures and objects of knowledge. It regulates the way the topic can be spoken and reasoned about. It effects the way ideas are placed in practice and are used to regulate behaviour (Hall, 2001). For Foucault, discourses can be anything that carries meaning. Discourses are formed by silent processes that generate laws around beliefs that are to be included which actively influence truths people believe (Hinton, LaPointe, & Irvin-Erickson, 2014). This means that FDA is able to deal with more than texts and objects, but also how people are positioned or how their behaviours are shaped in particular ways. Truth regimes constructed through discourse position people in particular ways, in different power relations that produce specific social activities and regulates ways of being (Ussher, 1997). Dominant discourses rule out other truths as dominant discourses support specific language, symbols, thinking and conclusions (Keeley, 1990). The concepts of truth regimes and an analysis of how dominant discourses rule out alternative truths is an effective way to approach an analysis of disaster lessons because it allows the thesis to identify the particular ways in which disaster lessons shape the behaviour of emergent groups'.

## *Genealogy*

Foucault's genealogical approach was employed as an analytical tool to examine how disaster lessons have come to dominate as a rationale and practice associated with post-quake groups and the post-disaster period. There are two major genealogical works of Foucault: *Discipline and Punish* (1977) and the *History of Sexuality* (1988). *Discipline and Punish* offers a complete historical study and a description of the way

the method was used and this was then employed into the larger study of sexuality, which offers a brief historical framework of the genealogy of sexuality (May, 2006).

Foucault's genealogy is a historical inquiry that traces the forces and occurrences that construct present practices along with the historical conditions on which these thoughts and practices still depend (Alversson & Karreman, 2000; Arribas-Ayllon & Walkerdine, 2008; Dreyfus & Rabinow, 1982; Fadyl, Nicholls, & McPherson, 2013; Garland, 2014). Foucault's genealogy confronts unquestionable norms, ideas and practices of the present day by historicising them (Bevir, 2008; Dunkle, 2010). In this thesis, Foucault's genealogical method was used to map out the history of disaster lessons as a systems of thought and practices. The purpose of this kind of historical inquiry was to show how specific discourses influence the present conditions of disaster lessons being practiced by emergent post-quake groups.

It became clear while conducting the genealogy that neoliberal governmentality had explanatory power and could be used to explain how particular kinds of thinking and practices of disaster lessons dominate aspects of the post-disaster period.

## *Neoliberal governmentality*

Governmentality, in essence, is about how to govern (Gordon, 1991). Michel Foucault in the 1970's introduced the concept of governmentality in his investigation into political power (Rose, O'Malley & Valverde, 2006). Foucault understood governmentality as meaning "the conduct of conduct"; that being a practice or activity that aims to influence and guide the conduct of a person or collective (Gordon, 1991). In a broad sense, governmentality can be understood as techniques and tactics that guide human conduct (Foucault, 1997). These techniques and procedures are constructed and directed by government rationales, which is a way or a system of thinking that makes activities and practices thinkable and predictable (Gordon, 1991).

Governmentality can be found in Foucault's 1978–79 lectures, which began with a detailed examination of eighteenth century liberalism, followed by lectures on neoliberalism (Gane, 2008). Foucault argued in his essay on governmentality that a

particular mentality that he labelled governmentality, had developed as a common ground for all modern forms of governmental thought and action (Rose, O'Malley & Valverde, 2006).

Foucault suggested that from at least the eighteenth century the art of government was taking shape. A liberal approach to governance had emerged in the eighteenth century (Walters, 2012). Monarchs, politicians and statesmen had come to view their tasks in terms of government. This modern understanding of rule was different to earlier forms of rule. Pre-modern forms of rule, centred around the objective of securing a sovereign's grip over territory. Whereas liberal authorities of the state had progressively come to understand their tasks as an issue of governance. People and populations, society and the economy were governed in a way that fostered order, welfare, security and prosperity (Garland, 1997; Rose, 1999). Liberalism was understood as a political rationality that was oriented towards specific objectives. Liberalism begins from the assumption that people's behaviours should be governed, not exclusively in the interests of enhancing the government, but in the interests of society as an external realm of government (Rose, O'Malley & Valverde, 2006). The liberal arts of government began by governing people to be free. People were "freed" in the spaces of the marketplace, society and family; these were positioned outside of the legitimate bounds of political authorities and were only subject to the bounds of law. Freeing these realms came with an array of interventions that aimed to influence and manage the conduct of people in desirable ways (Rose, 1999).

In the twentieth century there was a change from liberal to neoliberal forms of governance. Neoliberalism can be understood as a "loosely-defined capitalist ideology that informs the policies of many contemporary Western governments, positioning citizens primarily as entrepreneurs and consumers and presenting domination of the public sphere by the free market as a natural accomplishment" (Cromby & Willis, 2014, p.3). Institutional arrangements to implement neoliberalism have been established step by step in societies under neoliberal control (Luxton & Braedley, 2010). The purpose of neoliberal governmentality is to strategically construct social conditions that are contributive to the constitution of Homo economics. Neoliberal Homo economicus are free and autonomous and driven by self-regard and are "responsible for navigating the social realm using rational choice and cost-benefit

calculation to the express exclusion of all other values and interests” (Hamann, 2009, p.2). This highlights the link between governmentality and technologies. Foucault’s analysis of government (the conduct of conduct) brings together the governance of the population and one’s self to which individuals conduct themselves in a particular way in order to become particular kinds of subjects (Hamann, 2009). Foucault focused on neoliberal governmentality to explain how individuals (and groups) are taught to govern themselves and it is the idea of generating self-governance through “learning lessons” that this thesis takes and examines in relation to disaster lessons.

### *Critiques of social constructionism and Foucauldian discourse analysis*

In this section, limitations and criticisms levelled at both social constructionism and Foucauldian discourse analysis (FDA) are discussed along with explanations that, as they counter such criticisms, justify the decision to use them to guide this thesis. From a positivistic perspective a critique of both social constructionism and FDA is that both lack of objectivity. Truth claims are made within a positivistic research paradigm of science. From this perspective the researcher attempts to stand back from their humanity to uncover the objective nature of the phenomena studied without any bias or personal influence and from that objective truth is identified. From a social constructionist FDA framework true objectivity is not achievable and the positivistic objectivity-talk of researchers is seen as part of the science discourse. Each of us encounters the world from some perspective. Humans cannot step outside of their humanity; it is impossible to look at the world without holding any position at all. I cannot step outside of this research, rather I participate in the research process and co-produce it with the members in post-quake groups (Burr, 2015).

Another set of criticisms levelled at constructionism and FDA is the claim that humans have no agency within this perspective. Burr (2015) explained that because constructionism and FDA hold that people and all other things in the social world are socially discursively produced it is argued that this perspective leaves little to no room for agency. Another way to say this is, if people and the things that produce objects of knowledge are socially constructed through discourse, then agency is given more to

discourse than to human beings. Characterising people's experiences and behaviours as nothing more than displays of prevailing discourse suggests that people cannot change their situation through actions and intentions of their own, which is an extreme view (Burr, 2015). Bevir (1999) suggested that Foucault, in some of his work depicted the individual as a "product of regimes of power/knowledge" and uncompromisingly declared the subject dead. Foucault wrote histories that intentionally exclude references to deliberate and novel acts by individuals (p.65).

To counter the no agency argument, it is useful to discuss Foucault because Foucault's theorising has sometimes been argued to be positioned at the structural constructionist end of the spectrum where people are considered manifestations of discourse. Burr explained however, that this may be a misrepresentation (Burr, 2015). Burr drew on Sawicki (1991) who suggested that Foucault's ideas about people still allow a kind of agency. Although, the subject is a manifestation of discourse, the subject is still capable of critical historical reflection and can exert choice in regards to discourse and the habits it takes up. This view suggests that agency and change are possibilities because people are able (in the right circumstances and conditions) to critically analyse discourse that frames their lives and can oppose them according to the impacts that people wish to bring about (Burr, 2015). Bevir (1999) suggested that a more composed version of Foucault, permits the subject to construct themselves within the social context of a regime of power/knowledge, which does appear in Foucault's writings occasionally, particularly in his final writings on governmentality. Crucially, Foucault and his work provide us with different positions on the relationship between the subject to power/knowledge. Foucault suggested that change can occur by exposing marginalised discourses and making them accessible as alternatives from which we can form alternative identities. Agency within a social constructionist perspective views the person as "discourse user", which suggests that "change through personal agency and choice" can be achieved (Burr, 2015, p.63).

In sum, criticisms that FDA is an unsuitable approach to research because it lacks objectivity and fails to allow for agency can be effectively argued against.

Firstly, lack of objectivity is a more accurate account of human interaction since there is no such thing as an objective or independent reality free from the influence of ways of thinking. Secondly, discursive constructionism still allows for agency, as



explained above. Therefore, social constructionism and a FDA approach is still a convincing approach to analyse narratives of disaster lessons because this approach makes it possible to examine the objectification and internalisation of key narratives associated with disaster learning without losing sight of people's agency.

This section has discussed the strengths and weaknesses of both social constructionism and FDA, weighing these up to conclude that the criticisms are not strong enough to undermine the effectiveness of applying this approach to the analysis of lessons learned in emergent groups. In the next sections, the data gathering methods will be discussed.

## *Participants and recruitment*

### *Participants*

The participants in this research were involved in emergent post-earthquake groups that developed in the aftermath of either the September 2010 or February 2011 earthquakes. Participants in this research were either founding members, leaders or had been in the group since its emergence. Participants varied in their occupational backgrounds and gender. The participants in this research had roles in the community as educators, students and artists. There was also a landscaper, a business owner and a business manager.

There were fourteen participants in total, seven were female and seven were male. After the Canterbury earthquakes all participants initially started as volunteers in emergent groups. Nine of the participants interviewed were core volunteers' that helped with the formation of these post-quake groups and five participants became volunteers once groups had formed and began performing activities including food provision, information dissemination, clean-up efforts, housing issues, earthquake advocacy and support, distribution of resources and rejuvenating the city with art and greenery projects (Vallance & Carlton, 2013). Eleven of the participants held leadership positions and their titles within the emergent groups included leader, chair, director and president. Five participants started off as volunteers and then became

paid members who carried out work in these groups. Participant recruitment took place over six weeks, resulting in a total of fourteen participants from eight post-quake groups.

### *Purposive sampling*

Participants in this research were selected based on purposive sampling. Sampling is a component of qualitative research and purposive sampling is one type of sampling. A purposive strategy is chosen when participants are preselected based on criteria that are relevant to a particular research topic (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). This research employed purposive sampling to obtain data from participants that had insider knowledge and experience as members of emergent groups. Participants selected were leaders and members, who had been in the group since its emergence who were able to provide rich information and insight into the research topic of disaster lessons (Oliver, 2006).

### *Participant recruitment*

Participants in this research were recruited by email. The internet was used as a tool to identify and obtain the email addresses of potential participants who were involved in post-quake groups. The email addresses of post-quake groups were accessible as most groups had websites that provided contact details. A number of post-quake groups also had Facebook pages and this was used as an avenue to recruit and obtain the email address of one participant whose group did not have a web page. Once email addresses were obtained potential participants were sent email invitations. Emails were personalised and included a brief description of the research and invited participants to be involved. Attached to the email was an information sheet and ethics consent form. This research project was funded through the Canterbury earthquake digital archive (CEISMIC) and a consent form from CEISMIC was attached (see appendix).

Two emails were sent to the administrators of two emergent groups and then these emails were forwarded to members that the administrators thought would be

appropriate to approach for this research. Two potential participants that were emailed referred the research invitation on to members of the emergent group who they thought would be better suited to answer questions about the research topic. Most participants emailed back within a week and confirmed their participation and a date and location was then scheduled for the interview. Seven days after the initial email, a reminder email was sent to potential participants who had not replied.

## *Interviews*

Qualitative interviewing provides a flexible approach to data collection. One way it does this is by allowing for interview questions to be adaptable; not every participant needs to be asked the exact same questions. In this study questions were modified for specific participants and questions were also developed during the interview process; this was helpful because sometimes the discussion led to topics that had not been thought of prior to the interview, which could then be explored in that interview and in the ones that followed. A flexible interview schedule was also useful because for some participants' time was an issue; two participants said they were very busy and could only afford 30 minutes and when this occurred not all of the preconceived interview topics needed to be covered. Topics that were not covered in an interview with one participant could still be covered in other interviews.

Semi-structured interviews are a type of qualitative interview and this interview method was chosen because it provides an opportunity to discover how participants make meaning of their experiences. This type of interviewing can encourage in-depth and rich descriptions of the topic (DiCicco-Bloom & Crabtree, 2006). Semi-structured interviews allow both the researcher and participant to pursue an idea in detail. The format of semi-structured interviews offers participants some direction on what to talk about but also provides participants with some freedom for the discovery and explanation of information (Gill, Stewart, Treasure & Chadwick, 2008). Semi-structured interviews are spoken interchanges where the researcher aims to elicit information from a person by asking questions. An unfolding of conversation can enable participants to explore issues and tell their stories (Clifford, French &

Valentine, 2010). Semi-structured interviews were conducted to facilitate and gather local data on groups that emerged following the Canterbury earthquakes.

In order to prepare for the semi-structured interviews, background research was done on the Canterbury post-quake groups to get an insight into these groups, their history and the projects or work they have undertaken. This groundwork was done for a range of purposes including to clarify participant selection. This research sought to interview participants who had been members in these groups since their emergence, as well as those that became members once these groups had formed and began engaging in earthquake response and recovery tasks. It was helpful to interview a group's founding members along with those that volunteered because both could provide details about the emergent groups' development, learning and engagement in disaster lessons. The background research done on emergent groups also provided the opportunity for an interview schedule to be developed which helped with developing questions specific to each of the post-quake groups and the member's role as well as having some understanding of the participant and the story they told.

Semi-structured interviews accept the use of interview schedules, which outline the topics to be covered and their order during the conversation. Interview schedules provide some direction and questions can be asked when deemed appropriate and the appropriate words can be used to encourage in depth explanations (Piergiorgio, 2003). An interview schedule was developed for this research with the aim of staying on topic and drawing out disaster lessons from participants. The interview schedule began with questions around the participant's initial involvement, their role and then the discussion moved on to questions around topics including internal practices of the emergent group, challenges, external relationships, organisational development and disaster lessons. Prompts were included under these topics if certain details were not covered that were deemed important to the research. This gave me and the participant freedom, while ensuring relevant topics for this research were covered to collect the necessary data. An advantage of semi-structured interviews is that the interviewer can structure the interview, as they are present in the process of collecting the data. Communication can be optimised as the researcher is there to clarify any questions or confusions. Unscheduled prompts in the interview can elicit more in-depth detail and clearer responses from the participant (McIntosh & Morse, 2015). Therefore, semi-

structured interviews were a suitable approach for this research to obtain data about the disaster lessons of post-quake groups.

Semi-structured interviews were carried out because this type of interviewing strategy is able to obtain in depth information and knowledge than for example a survey would (Johnson, 2001). I was interested in discourses that are reflected in the way participants narrate their stories/responses and this in-depth type of interviewing allows for such detail. In-depth interviewing involved an approach of social and interpersonal interactions in the interview; this resembles a style of conversational interviewing. The interviews conducted often began with welcomes and small talk to build a type of intimacy, “to break the ice” and then the research was explained along with its purpose and this was followed by the interview questions (Johnson, 2001).

Participants had the option to be interviewed in a public but private location that was convenient to the participant, such as the participant’s place of work, a cafe, a booked room at the University of Canterbury or public outside spaces.

Before the interviewing process began, I made sure all participants had read the information sheet, so they were clear about the research process, their rights and what they were participating in. Interviews took between 30-80 minutes and this was a sufficient amount of time that allowed for most questions in the interview schedule to be answered and allowed participants time to answer the questions sufficiently. Some participants as mentioned previously were only available for a limited amount of time because of busy schedules. Some participants had said over email that their time was limited to 30 minutes. Ideally interviews would take between 45 to 80 minutes to complete to cover all of the topics/questions in the interview schedule and to get sufficient data for this study. In the case of a short interview a plan was made and the order of questions were changed if there was limited time. There was some difficulty in figuring out what questions or topics to choose and what ones to remove. However, this only happened during two interviews where participants mentioned that they had to leave at a certain time in which case the interview moved on to questions that specifically asked participants about challenges and the lessons learned by the post-quake group.

The interviews were recorded with a digital audio device to get an exact account of the interview and enabled the focus to be on the participants and the discussion rather than on writing notes. No technical problems occurred using the digital audio device.

## *Documentary data*

Documentary data was collected in combination with the interview data. The documentary data was used to corroborate and complement the interview data. Documentary data was gathered using post-quake groups' websites, Google, news media sites, government and Civil Defence and Emergency Management websites, University of Canterbury's library data base and the Canterbury earthquake digital archive (CEISMIC). Data was obtained by searching the names of post-quake groups along with terms including community groups and the Canterbury earthquake, community participation in the Canterbury earthquake, lessons learned from the Canterbury earthquake, Civil Defence Emergency Management Response to the Canterbury Earthquakes, local responses to the Canterbury earthquakes and Civil Defence and the Canterbury earthquake.

## *Research concerns and ethics*

This research project was approved by the University of Canterbury Human Ethics committee. In the process of developing that application, ethical considerations and issues in this research became clear, these included issues around who to contact. Along with concerns around preserving the participant's anonymity. Participants are potentially identifiable because Christchurch is a small city with only a limited number of emergent post-quake groups.

Issues that emerged in the research included figuring out what post-quake groups to interview and then who to contact within the group. All emergent groups had either websites, Facebook pages or both where contact details and information about members were made assessable. There were some difficulties around this though, as some groups had since disbanded and their websites or Facebook pages were not

active and some email addresses were no longer active. Other post-quake groups were now associated with institutions, which created the question of who to contact? Is permission needed from institutions as well as the post-quake group to obtain interviews from members? These caused difficulties in figuring out who to interview. Some emergent groups had now transformed into new groups and in this situation often there was a forwarding email address.

An initial email was sent to a range of post-quake groups including groups that were associated with institutions, groups that were disbanded and groups that had transformed into new organisations. The email outlined the research and whether the groups had protocols in place for research and contacting potential participants. The post-quake groups that replied revealed that there was no such protocol in place and the person who sent the reply would then either offer to participate or would reply with suggestions of members who could appropriately be contacted to request participation in this type of research. These members were then contacted. Three groups could not be contacted because the email addresses no longer worked and some post-quake groups' websites were no longer active where contact details could not be obtained.

There were issues with potential sources of data because some websites and media articles were no longer accessible or had been removed. Often these sources were news items that had appeared in media such as radio and television. It has been six years since the Canterbury earthquakes and this created some difficulties because particular items could not be explored or used as data. However, there were plenty of interviews and media articles that were still available and accessible.

As mentioned it has been six years since the earthquakes and in these six years, post-quake groups have been interviewed and continue to be interviewed today. Post-quake groups have given many media interviews, participated in research projects and disaster after-action reports. During initial contact, a participant mentioned that members in their group had been over interviewed. I reflected on whether to contact this groups' members, however, upon reflection I decided to give members the opportunity to participate and left it to them whether they would like to or not. One member did decide to participate.

This research project is to be part of the Canterbury earthquake digital archive (CEISMIC). As a CEISMIC project there was a QuakeStudies consent form where participants were invited to contribute content to the QuakeStudies Digital Archive. The QuakeStudies form asks participants to make their contribution more publicly available and for the participants' name or the name of the post-quake group to be associated with the research. The QuakeStudies consent form asked for the recorded interviews and the raw data to be made publically available and this raised some concerns.

If the recorded interviews were made public, it would have been impossible to maintain the participant's anonymity because there would be comments that would make the participant or post-quake group identifiable. Some interview questions were planned to be specific to the post-quake group and the member interviewed. The option to make audio recordings publicly available was therefore removed in order for participants to remain anonymous. Participants had to be protected because some information provided was sensitive. If participants were not made anonymous then they might not have wanted to divulge certain details because they could get in trouble in their employment or they might have felt uncomfortable if certain information was exposed and linked to them. Identifying the participants and groups in the research would have limited the interview, data and research. Instead of audio recordings, summarised versions of transcripts were to be made available with all comments that could identify the person or post-quake group removed. As outlined in the consent form, transcripts were edited to create confidentiality and participants' names or organisations along with any other information that identifies them were removed (see Appendix for consent form). Also gender neutral language is used in the findings and discussion chapter to further maintain confidentiality.

However, one post-quake group in this research did not want to remain anonymous. During the last interview, three participants from the emergent group were interviewed and the participants' made it clear that they wanted their voices heard because they had felt that their group and their voices had been "shut down" during the earthquake recovery (Participant 12). Prior to being asked by this group, I had not anticipated that participants may not want the emergent group they belong to, to be



anonymous. During the interviewing stage, other participants had been happy with the information sheet and had signed the consent form that stated that emergent groups and the participants in this research would remain anonymous. The group who did not want to remain anonymous had signed the consent form prior to the commencement of the interview, as did all participants but as the interview finished the group made an ultimatum, that the data could only be used if the name of the group Empowered Christchurch was attached to the data, I agreed to this. I agreed to this because prior to the interview I had done background work on the group and what was said in the interview was not too different from what the group have written or done in public. It would not affect the research or results. The participants had also pleaded their case and I respected the reason why they did not want to remain anonymous. A written statement on the consent form about the emergent group being associated with the data was signed by the participants. Their consent was also audio recorded on a digital device.

## *Analytical methods*

The first stage of data analysis included transcribing the recorded interviews. The recorded interviews were transcribed verbatim using transcriber software Transcribeme. This was then followed by a process of coding.

## *Coding*

The coding process in this research drew on Rubin and Rubin (2005) and Saldana's (2009) coding measures. The coding process began with an initial reading through of the data and during this, notes were jotted down in the margins of potential themes and ideas that stood out. Following on from this a general list of questions were formed which further helped with generating themes and clarifying their meaning. This was followed by a process of refining and designating interview texts and relevant supplementary documentary data to the coded themes. The next step of the coding process was to develop a coding structure that was relevant to answering the research question. The second layer included incorporating a Foucauldian analytical

framework into the coding process. A part of the coding process was to ask questions about disaster lessons including how participants narrate and understand them.

The initial coding of the interview transcripts began with a process of identifying and marking common themes and ideas that were potentially important to the research topic. Initially sixteen themes and ideas were identified these included:

- Participant involvement/ group emergence
- Figuring it out as you go (organisational learning)
- Bureaucracy
- People power
- Values
- Funding
- Leadership
- Trust
- Media
- Social media
- Burnout
- Kiwi culture
- Rebuild and recovery
- Lessons learned
- Transitioning identity
- Replicating initiatives

Questions were formed once initial ideas and themes were identified. These included:

- How do members talk about, characterise, and understand disaster lessons?
- How are disaster lessons constructed by participants?
- How are disaster lessons framed?
- What kind of practices do emergent groups engage in to generate and share disaster lessons?

The questions helped with the next stage in the coding process and that was to explain what was meant by the themes. The questions helped with the process of synthesising and clarifying themes so that they were specific to the thesis question. A brief description outlining each theme was written. Once this process of identifying, synthesising and clarifying themes had occurred, the text was then marked and designated to specific themes.

Following this designation process, a coding structure was developed. This stage involved further thinking about the research focus on disaster lessons and the questions that had been formed above. The themes and the coding labels were refined to fit the overall structure of this research. The aim was to identify themes that were most important to understanding this research topic. Refining themes was an ongoing process throughout this research and took two months to finally determine (Rubin & Rubin, 2005). The final structuring of the data symbolises a trajectory of emergent groups with an emphasis on organisational learning, challenges and disaster lessons. The trajectory includes three main themes with sub- themes as follows:

#### Post-quake groups' formation

- The development of post-quake groups
- Figuring it out as you go (emergent organisational learning)

#### Becoming established, challenges and lessons

- Bureaucracy
- Funding
- Trust
- Leadership practices
- Burn out

#### Communicating disaster lessons

- Reflections on disaster lessons
- Disaster management and lessons
- Replicating initiatives

## *Genealogy*

A process of the analysis was to build and present a genealogy of disaster lessons. Foucault's genealogy begins by forming "a question posed in the present" (Kritzman, 1988, p.262). The question posed was, how do disaster lessons come to dominate thinking and practices associated with the post-disaster period? The analysis presented disaster lessons that have been shaped through the histories of disasters, which have been influenced by different systems of ideas. Disasters have been understood as acts of religion, science and humans, which have influenced the lessons learned from disasters and the practice today. The narratives of emergent groups presented in the findings are part of the genealogical analysis. These narratives developed discourses about each group's history and from this, the aim was to make connections to demonstrate how discourses of disaster lessons have been repeated as a way to show the genealogy operating. The data on emergent groups draws on the past; making connections to how it constitutes the present. For example, a history of disaster lessons is presented through New Zealand's disaster management system and this is drawn on in the present as the practice of documenting and identifying disaster lessons has become an established and naturalised practice within disaster management in New Zealand that has shaped the construction of lessons by emergent groups.

## *Data and discourse*

Another element of the coding process of the data was to think about discourse within a Foucauldian framework. As Graham (2011) suggested when doing discourse analysis, it is important to look at what the data statements do rather than what they say, that is to look at the way certain things are said and their effects which determines the possible expressions of particular themes and shows that particular statements have come to dominate ways of understanding. While coding the participants' transcripts and the relevant documentary data, the dominant ways of thinking and doing were noted. For example, the theme on bureaucracy was dominantly expressed as a challenge for emergent groups. Bureaucracy was an

activity that many emergent groups had to engage in as they partook in disaster response and recovery activities. Bureaucracy was commonly characterised as being slow, complicated and time consuming which demonstrates a dominant narrative of bureaucracy that is highlighted in disaster literature on emergent groups. Participants constructed particular understandings about bureaucracy through their experiences.

## *Memo*

Memo writing was utilised as an analytical tool because it helped encourage the noting down of my thoughts and ideas. Hahn (2008) and Saldana (2011) suggested that memo writing is a qualitative analytical tool that can be used to provide an understanding of the data. Saldana (2011) also suggested that analytical memos can be considered a “think piece” of “reflexive freewriting” (p.98). Lempert (2011) noted that memos allow researchers to engage in and document intellectual conversations about the data with themselves. The direction of the data, data patterns and coded themes can be noted and were noted during the coding process. Once the data was collected and the coding process began, I started writing memos. The memos were made up of my thoughts and ideas that popped up whilst coding along with notes on extracts that stood out in relation to the research topic, occurring themes and dominant understandings of particular discourses were noted (Hahn, 2008).

## *Conclusion*

This chapter detailed the methodology for this research and to demonstrate that the methods employed were consistent with the chosen methodology. The methodology drew on methods that suited the research questions that were posed. A qualitative approach was employed to obtain detailed descriptions and perceptions of disaster lessons by participants in emergent groups. A social constructionist epistemological stance was selected because this perspective understands reality to be socially constructed and this research in particular was interested in the construction of disaster lessons by emergent groups. Specifically, Foucault’s genealogy and governmentality were utilised as analytical tools. A genealogical approach was

chosen to examine the forces that have constructed and shaped disaster lessons as a dominant post disaster activity. The theory of neoliberal governmentality was used because it had the ability to theorise disaster lessons as a form of neoliberal governmentality that shapes and guides the conduct of emergent groups. The qualitative, social constructionist Foucauldian approach influenced the type of data collected and how it was used in this research and included interview transcripts, written reports and documents. This chapter also presented a discussion about the coding process through which the data was organised to demonstrate a trajectory of post-quake groups. In the following chapter, the result of this analytical process, a genealogy of disaster lessons, is presented.

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## *4. Genealogy: Tracing disaster lessons*

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### *Introduction*

In this chapter, a genealogy of disaster lessons is presented. The aim of the genealogy was to investigate the contemporary practice of documenting and identifying disaster lessons by tracing the historical conditions from which this practice and way of thinking has developed. As long as there have been disasters, people and communities have tried to find ways to deal with them. Individuals and societies have made countless efforts to reduce the exposure and effects of disasters (Coppola, 2011; Haddow, Bullock & Coppola, 2011) and attempts have been made to utilise disaster lessons in this way. However, the practice of documenting and identifying disaster lessons has not always been securely established within political disaster management systems.

The genealogy is tasked with unearthing minor practices that are involved in rendering behaviour, knowledge and relations to become a thought, an account and intervention (Anais, 2013). This chapter begins by noting early depictions of disaster lessons and this is followed by explanations of disasters as acts of religion, nature/science and humans through disaster management. These explanations trace possible ways of thinking about disaster lessons. These truths have influenced disaster lessons as a practice and system of thought that is prevalent today.

### *Early depictions of disaster lessons*

Disaster lessons are rooted in ancient history with early depictions of lessons in caves of ancient dwellers trying to deal with and manage disasters (Haddow, Bullock & Coppola, 2011). Other historical depictions of disaster lessons include ancient Egyptians in the twentieth century B.C., the twelfth Dynasty Pharaoh, Amenemher II

attempted to control floods through river control, “with an irrigation canal and a dam with sluice gates” (Quarantelli, 2000, p.8). This demonstrates lessons in disaster mitigation and preparedness. In ancient Rome, fire was a problem with the combination of urban living conditions and flammable building materials that made the city fire-prone, and fires could spread quickly during dry weather. Fire prevention was a prominent concern with several emperors imposing height restrictions on construction in order to reduce fire damage. The strictest height codes were introduced by Nero in 64 C.E. after the Great Fire (Kte'pi, 2011). The acceptance of disaster lessons has been visible throughout history with past civilisations recording and sharing their attempts of disaster management.

## *Regulating disaster lessons*

Disasters have historically been regulated and understood through a series of authoritative systems of thinking. These systems have influenced our understandings about disasters and how they are to be managed. Foucault’s genealogical method was used to present three phases in history that have been important to understanding disasters and the practice of documenting and identifying disaster lessons (Furedi, 2007). Historically, disasters have been understood as acts of a supreme being such as a God who defines rules around morality. The rise of Enlightenment and secularism saw a shift to understanding disaster as acts of nature; disaster lessons were regulated through discourses of science (Furedi, 2007). This then shifted to disasters being understood through a political and judiciary branch of disaster management (Quarantelli, 1995). Today disaster lessons are regulated through the states disaster management system.

## *Disasters as acts of God*

Disasters in the “Western” world have been explained and justified through religion, as acts of God; a punishment from God. Religion has regulated disaster lessons through constructions of morality and salvation. The bible contains mentions of many disasters that have befallen upon different civilisations (Dynes, 2003; Haddow, Bullock & Coppola, 2011). The account of Noah’s Ark from the Old Testament is an



example of a lesson in morality with God sending a flood to punish humans because of their sin. It is also a lesson in warning, preparedness, and mitigation. Noah warned that there was a flood approaching, he prepared his family for the disaster by creating an ark and also attempted to mitigate effects on biodiversity by collecting animals and placing them on the ark and by doing this they survived the flood. Others that did not follow suit did not survive (Coppola, 2007). Noah's story can be understood as a lesson of sin and of god's judgement. It can also be understood as a lesson of disaster management with an emphasis on the practices of disaster warning, preparedness and mitigation which are practiced today through state disaster management systems.

Another historical example of religion regulating the practice of documenting and identifying disaster lessons can be illustrated through the history of ancient Greek and Roman Empires which took religion to be important in times of disasters. For the ancient Greeks and Romans, the gods played a role in their societies including being protectors against disasters, alternatively some gods were thought to bring judgment and punishment (Nthakomwa, 2011). Lessons were constructed in terms of morality and worshipping gods. Disasters as acts of God is still a view some people hold today, although it is not a common way to understand disasters in Western society. However, after the Canterbury earthquakes there were media headlines about claims of the earthquakes being an act of God. Media examples include: "*acts of God, the big bang, sinful humans*" and "*Christchurch earthquake: act of God?*" There were claims for example by Destiny Church leader, Brian Tamaki who laid blame on sinners and singled out lesbian, gay, bisexual, and transgendered (LGBT) people (Mathews, 2011; Paulin, 2016).

### *Disasters as acts of nature*

The conceptualisation of disasters as acts of God was replaced with acts of nature which were constituted through discourses of science. The rise of the Enlightenment (seventeenth and eighteenth centuries) and secularism led to shifts in the way people understood disasters (Furedi, 2007). Scientific arguments, prevention and technical measures overturned beliefs that disasters were an act of God (Weichselgartner & Bertens, 2000). Disaster lessons became regulated and constituted through

enlightenment beliefs and understandings. During the enlightenment period philosophers such as Voltaire, Rousseau and Kant along with many others suspected that disasters were an act of nature rather than an act of God (Duarte & Schellart, 2016).

The great Lisbon earthquake in 1775, influenced thinkers of the Enlightenment. For example, Kant wrote three essays in 1756, in which he developed a theory on the cause of earthquakes. Kant argued that earthquakes were a cause of sudden ground movements that were “triggered by the abrupt displacement of gases in the interior of interconnected caverns” (Duarte & Schellart, 2016, p.2). Philosophers such as Kant believed that earthquakes generated fires. There were messages around building safer structures such as having housing that can withstand earthquakes (Ismail-Zadeh, 2014). Knowledge produced through the sciences then framed understandings of disasters. Developments in the sciences prompted a new source of knowledge that influenced people’s perceptions and understandings of disasters and how they are managed (Furedi, 2007).

Today, there are similar lessons around building safety that is framed through scientific knowledge. Seismology, the scientific study of earthquakes can provide us with information on seismic areas to which building safety measures can be employed such as building earthquake resistant buildings in such areas. One of the lessons learned following the Canterbury earthquakes was around building safety, strengthening buildings and building safer infrastructure in seismic areas. Lessons in building safety led to policy change with building legislation setting targets for strengthening buildings in seismic risk areas throughout New Zealand.

### *State disaster management systems*

Disasters as acts of nature have been gradually displaced by disasters as acts of humans. From this perspective, a natural disaster is a physical occurrence that does not have any social results unless there are humans whose “decisions and actions create built environments that can be impacted” (Quarantelli, 2000, p.4). Disasters as acts of humans are a result of direct and indirect actions that are planned or unintended by people (Quarantelli, 1995). Human response to disasters are guided by

state disaster management systems that are regulated by legal frameworks that are based on technical solutions (Manyena, Mavhura, Muzenda & Mabaso, 2013). The practice of documenting and identifying disaster lessons is constituted and regulated through the states disaster management system.

Disaster management in New Zealand has gone through many changes in the twentieth century with the development of the Emergency Precautions Scheme, civil defence and the Civil Defence Act which has been reformed over the years. In the twentieth century in New Zealand the construction of disaster lessons has worked to regulate disaster management practices and legislation. In New Zealand, the development of early civil defence and related legislation was influenced by overseas approaches, especially British models (Ministry of Civil Defence New Zealand, 1990). In the 1930s the Emergency Precautions Scheme (EPS) was established; the idea came from Britain. This scheme was prompted by the 1931 Napier earthquake. The EPS was also provoked out of a concern over a natural disaster occurring while many men were in military service overseas, the concern was over the ability to respond (Quarantelli, 2000). In the 1930s, an organised civil defence developed, it was an early version of what we see today. Civil defence emerged to protect civilians from threatening situations. Early defence in New Zealand had a major focus on mitigating and responding to war as there were looming threats of war, with World War II on the horizon (Ministry of Civil Defence New Zealand, 1990).

Disaster lessons have been constructed in New Zealand after natural disasters throughout the twentieth century and this practice continues today. An example includes the Wahine storm in 1968, the storm hit the North and South Island. The storm had caused debate about civil defence and its quality and an urgent re-examination took place. Civil defence were deemed inadequate to meet situations caused by the storm. Learnings from the Wahine storm highlighted weaknesses in the organisation of civil defence and there were recommendations for improvements to procedures and practices related to administrative links and communication (Ministry of Civil Defence New Zealand, 1990). Another example that highlights the practice of disaster lessons was the Inangahua earthquake that occurred on the May 24 1968. A major lesson learned from the earthquake was the difficulties that local organisations' had because of their state of readiness and reluctance of local authorities to declare

emergencies, which resulted from a lack of knowledge about procedures under the Civil Defence Act. Legislative amendments were made to the Civil Defence bill and one of the amendments was to make civil defence planning mandatory (Ministry of Civil Defence New Zealand, 1990). Another disaster that altered civil defence was the Abbotsford landslip in 1979. Following the landslip a state of local emergency was declared in Green Island. Lessons constructed from this disaster led to recommendations for legislation changes in procedures including changes in declaring states of emergency and providing funding to aid local authorities (Ministry of Civil Defence New Zealand, 1990). These examples of disaster lessons highlight the prevalence of the practice after a disaster occurs. It also shows that disaster lessons is a common practice of state disaster management.

## *Conclusion*

Disasters and the lessons learned from them have been understood in different ways that reflect dominant systems of thought. The genealogy shows lessons reflecting particular thoughts from moral lessons, scientific lessons to political and regulative lessons through disaster management systems which have rendered the knowledge and practice of documenting and identifying disaster lessons to be knowable. People's behaviour has been regulated towards generating and practising disaster lessons, which have been reproduced in different ways throughout history. These historical forces have given birth to the present day practice of documenting and identifying disaster lessons. In the following chapter, the genealogy continues through a findings chapter that presents an example of the modern day practice of documenting and identifying disaster lessons through emergent groups that developed following the Canterbury earthquakes.

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## *5. Findings*

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### *Introduction*

In the previous chapter, a genealogy of disasters lessons was presented. The chapter traced the historical practice of disaster lessons which have been regulated through various systems of thought that have influenced present conditions. The chapter ended on an account of disaster lessons being constituted through state disaster management systems which is taken to signify how disaster lessons are prominently constructed today. The knowledge and practice of documenting and identifying disaster lessons has been rendered a naturalised practice that is partaken in after the event of a disaster. This chapter illustrates emergent post-quake groups replicating this knowledge and constructing the practice of documenting and identifying disaster lessons.

As outlined in the methodology, a Foucauldian genealogy was used to analyse and interpret the data to generate an account of how particular ways of understanding have come to dominate. This was done by generating an account of the present day practice of disaster lessons through emergent groups. The findings are structured to present the trajectory of a post-quake group so as to highlight the emergent group's life through the earthquake response and recovery and to roles that extended beyond this. The trajectory has a central focus on organisational learning, challenges and engagement in disaster lessons. The material is organised in this way as it helps to illustrate the conditions of the disaster along with conditions set out by governmental, bureaucratic and other discourses that the groups depend on and are shaped by. Emergent groups' disaster lessons are used as a case study to show the continuity of the practice of documenting and identifying (constructing) disaster lessons.

The findings are split into three themes, the data from participants in emergent groups have shaped the core sections of the findings chapter. The themes selected were based on a result of the themes that were most often talked about by the participants along

with themes that highlighted the disaster lessons of emergent groups and the discursive learning practices they engaged in. The findings were also in part influenced by how the context of disaster lessons has been perceived by me. As mentioned in the methodology this research has an epistemological influence of social constructionism and an acknowledgement of this epistemological perspective means that the researcher cannot be separated from the research. The results of this research are a joint construction between the participant and me the researcher (Burr, 2015; Guba & Lincoln, 1989).

The first theme *the development of post-quake groups*, focuses on the emergence of post-quake groups and the initial lessons that these groups learned. The second theme *becoming established, challenges and lessons*, centres on narratives highlighting the development of the emergent groups and the challenges these groups faced as they engaged in the earthquake recovery. Challenges included bureaucracy, funding and burnout. Lessons in leadership and trust are also presented. The third theme *communicating disaster lessons* focuses on post-quake groups' engagement in generating, producing and sharing disaster lessons and becoming involved in government disaster management practices. The findings present the disaster lessons of post-quake groups and the discursive practices used to share them. The findings illustrate how ways of thinking and behaving related to disaster lessons that were presented in the previous chapter are still with us and have manifested through accounts of emergent groups. The historical tracing of disaster lessons and the findings can thus be read as a "history of the present of disaster lessons".

The extracts presented in this chapter have been contextualised with additional notes to clarify their meaning.

### *The development of post-quake groups*

The first core theme to emerge from the data was accounts of the formation of the various post-quake groups along with how participants became involved in these groups. This section provides some context on the post-quake groups to which disaster lessons emerged from. This was followed by excerpts illustrating initial

organisational learnings (disaster lessons) that have shaped post-quake groups and their activities in the disaster recovery.

### *The emergence of post-quake groups*

The findings discussed in this section concern the various motives that led to the emergence of post-quake groups along with the participants' involvement in them. Motives that influenced the formation of these groups and the participation of participants included: an urgency to meet the needs of people that had been negatively affected, providing resources, to engage in decision making regarding disaster recovery and having community representation. These reasons were influenced by ideologies including volunteerism, religion, political and community engagement.

Participant eight: *We (participant and their friend) were talking about what we could do to help because we saw that there was a real desperate situation. . . so I said let's do something and he said great, yeah let's do it. We thought initially it would just be us and people we knew, we are both involved in the Catholic parish and we just get involved in volunteering as we always do and um that's what we thought it would sort of be but we wanted to do something to help.*

Participant eight: *Religious faith particularly Christianity is fundamental to so many people that volunteered and stepped up to the plate. . . . I think for me personally, I think my religious faith has been fundamental to that, the whole Christian ethos, you put yourself on the cross for other people and you give yourself, that's what you do.*

In the above quotes, two main factors have influenced the participant's involvement and the emergence of the post-quake group. The first factor included the participant wanting to help because of the "real desperate situation" following the earthquake. The participant noted that they wanted to help collectively and this was presented in the language used, "we" and "us". The participant initially thought it would "just be us and people we knew" which suggested that it did not stay this way, the group

eventually expanded. The other influencing factor that led to the emergence of this group was religious ideology. In the extract, Christian discourse functioned to influence the participant's behaviour and the emergence of the group, which the participant initiated. The participant discussed their involvement in the Catholic parish and being engaged in volunteering roles and practices. Volunteering was noted to be a common activity, and was something they "always do" and the participant reflected on this experience, in thinking that engaging in the recovery would be similar. The participant later talked about Christianity being "fundamental" to volunteers. Religious discourse in the extract worked to influence people towards volunteering. Particularly for the participant who reflected on the Christian ethos "you put yourself on the cross for other people and you give yourself" which was a motivating factor for the participant and their involvement in the recovery.

The following extract is from a news article that drew on volunteering in the aftermath of the Canterbury earthquakes.

*Since the first earthquake, we have seen thousands upon thousands of selfless acts of volunteering in Canterbury. After the earthquakes everyone became a volunteer everyone did something to help others, family members, friends, neighbours, even strangers in the street. There were many examples of volunteer groups' swinging into action, like the Rangiora Earthquake Express helicopter flying hot meals into areas difficult to access, or volunteer knitters spending countless hours knitting hats, beanies and blankets before winter set in. (The Press, 2011, para, 1)*

Volunteering discourse was constructed in the online news article. The article constructed volunteering through discursive practices that involved "selfless acts" and people helping others. The extract from the media article contains specific examples of volunteering through the actions of the Rangiora Earthquake Express "flying hot meals into areas difficult to access" and the volunteer knitters who were spending "countless hours" knitting clothes and blankets before winter. Volunteering was expressed as a normative activity that was partaken in, as the article suggested "everyone became a volunteer" after the earthquake. The media article presented



volunteering as a collective act that was engaged in by everyone, family members, friends, neighbours and strangers.

In the following extracts two participants discussed a lack of community representation and dissatisfaction with aspects of the earthquake recovery which influenced the participant's involvement in the recovery and the emergence of two post-quake groups.

Participant twelve, Empowered Christchurch: *We started um, I started initially um 2013, very early 2013, it was because I felt that there was a lack of real community representation in the recovery and I felt that the organisations that were already here um were too aligned with the powers that be.*

In the extract, the participant draws on the emergence of the post-quake group through representational and political discourses. The participant noted that there was a “lack of real community representation” in the recovery. This suggested that the community representation that was there was superficial and not “real community representation”. The participant noted that this was because the organisations that were there were too closely associated or “aligned with the powers that be”. A tension between the participant and the existing organisation and the “powers that be” was presented in the extract. The post-quake group emerges through grassroots to get “real community representation”. Political discourse was drawn on through the group's interaction in the political domain among political actors to get community representation.

Another participant from another group talked about a dissatisfaction among earthquake affected residents with aspects of the recovery which led to the emergence of the post-quake group.

Participant four: *People actually stepped up into that community space um of their neighbourhoods and stuff and said you know what, this isn't good enough or noticed gaps that weren't addressed and decided to do something about it.*

In the extract, people become active in the recovery through dissatisfaction. The participant uses transformative language, “stepped up” and “do something about it” to

express people's actions. The community space was referenced in regards to neighbourhoods. Community was understood in this context through geographical location which was a dominant understanding of community. People in neighbourhoods that came together and communicated dissatisfaction and noticed gaps that were not addressed, ignited collective action which led to the emergence of the post-quake group.

### *Figuring it out as you go*

In the following extracts, participants have constructed disaster lessons. These lessons, as mentioned in the genealogy, have been influenced by historical forces that constitute this practice of identifying disaster lessons as a post-disaster norm. Participants constructed disaster lessons discourse through learning strategies that were employed as a way to figure out and establish the group and their activities. Participants discussed how they initially organised themselves and practices by learning as you go, “just by doing it”, asking questions and learning through trial and error. These approaches led to groups developing processes, planning and implementing organisational learnings within their group. Disaster lessons in this section are constructed through the experience of post-quake groups as they navigate their way through the disaster recovery.

Participant one: *Initially, it was just by doing, um having an idea and talking to people and being aware of, I guess, or asking enough questions to find out what the process was in order to do things.*

Participant one: *I think a lot of the time really early on, I think it was just um being really open to what you had to do to make it work, by having a vision, a clear vision, um and a bit of an action plan as to how to get there um but being really flexible and changing and if you needed to do something acting on that and finding a way through it.*

The participant noted that the group learnt to navigate their way through the recovery “just by doing”, which helped the group figure out ways to do things. The group

talked to people and asked questions to find out about pre-established processes to do things, which helped the group figure out formalised ways of doing things. In the extract, the participant constructed a particular truth about being a group or organisation that there are processes to go through in order to “do things”. The participant noted that the group and their activities were shaped by these pre-established processes as they figured out how to do things. The participant further suggested that early on the group were “really open, to make it work” and part of that was by having a clear vision, and an action plan. This suggested that the group were focused rather than open. The participant then noted the group were “really flexible”, being able to change and if something needed doing, act on it and find a way through which reflected the group being open.

In the following extract another participant from another group talked about the emergent group learning to function as they engaged in the earthquake recovery.

Participant six: *You don't have to know how to do everything, you can kind of learn as you go and if you're inspired and are willing to learn you can kind of take it as it comes and respond to it with the best approach you know or that you can sort of grasp.*

In the extract, the participant presents a particular truth about organisational development which coincides with learning. Participant six drew on the group functioning and figuring out how to do things by learning “as you go”. The participant suggested that to “learn as you go” requires an eagerness to learn, along with being “inspired and willing” which implies you have to have the right attitude to learn. Learning as you go was said to result in “taking it as it comes” and responding with the “best approach” you know or with an approach that can be grasped. This was noted to have guided the participant and post-quake group in figuring out ways to do things. The “best approach” that has been learned or grasped can then be employed. This extract shows that learning was being used as a mechanism for organisational development.

Following on from this, participant seven discussed the initial processes of the group's learning.

Participant seven: *We had to go through a learning process that's how it develops, when you're born, you start to get up and take your first steps. We were taking little steps to start with and we didn't really know what was happening.*

In the above extract, learning discourses were used to explain the development of the group. The participant drew on the example of physical human development to explain the group's emergence. The participant explained this using a simplistic example "you're born, you start to get up and take your first steps". This was noted to have happened to the post-quake group, it emerged and then "little steps" were taken to start with. The participant suggested that initially the group did not know what was happening and this was further explained in the example below.

Participant seven: *That first forty-eight hours we didn't really have any direction from the Council where the worst areas were and where we should focus. We actually had people on push bikes and cell phones because they couldn't drive, riding around saying this street is really bad and we phoned it through and sent a team down, by the time we got three or four days down the track we had the next day planned before they had arrived and we knew where they were going, so it was much faster.*

The participant talked about looking at the local Council for some guidance on how they could begin to engage in the recovery; however, no guidance was given. There was an expectation that the Council, as a governing body, would offer direction and would influence the group's activity in the recovery. The group instead had to figure it out for themselves and they did this by having people on push-bikes to locate and phone in the worst affected areas and deliver that information by telephone. This information led to teams being deployed in the affected areas. After a few days, the group had started to plan ahead. The example demonstrates a lesson in organisation, with the group developing their own system and way of operating in the recovery. The group established a way to gather information and deploy teams, which became an efficient practice for the group.

In the following extract, participant two reflected on a lesson in deconstructing a project that the emergent group built.

Participant two: *Early on we used nails and if you are doing a temporary project and it has to be deconstructed you should use screws, so stuff like that you know the implementation we had to work it out and you learn as you go it's a bit of trial and error.*

In the extract, the participant drew on learning discourse, where learning was said to occur through experience, trial and error. Participant two talked about temporary projects being deconstructed. Initially nails were used but this made deconstruction difficult. Through trial and error the group came to “learn” that screws made deconstruction much easier. The use of screws was then implemented into the deconstruction practice. The example demonstrated that lessons learned discourse comes into being through talk, action and implementation. The lesson was experienced as a transitional process that reflected organisational knowledge and change. The example showed knowledge being constructed; nails were found to be challenging for deconstruction and screws were understood to be a better option. This was a learning that was employed in future projects. Participants discussed actively seeking to learn as a means of figuring things out and acquiring knowledge to develop new practices and processes.

Participant six in the following extract drew on a lesson in organisation.

Participant six: *Now we have got a marketing timeline, we have got Gantt charts for our events we have. . . . Whereas like, when I did it (the planning) I had like a bullet point list on a piece of paper with stuff I had to do or that I thought I had to do. . . . We are continually learning new ways to do things and changing it up we have got more sophisticated you know. In terms of what we do and how we do it you know as a result of I suppose to sum up as a result from learning from what works and what doesn't work.*

Participant six noted that the post-quake group learned to become more organised through the use of Gantt charts, which can be used to highlight project schedules and

events. The group initially used paper with a bullet point list on it as an organisational practice but as the group became more “sophisticated” better practices were learned and developed. The participant reflected on learning being a result of trial and error from the group’s experience of “what works and what doesn't work”. Learning was constructed as an ongoing process, the group were “continually learning new ways to do things and changing”.

These accounts by participants reveal the disaster lessons that have led to emergent groups evolving and becoming more organised and coordinated. This framing of disaster lessons has historically been projected through New Zealand’s disaster management system. The construction of disaster lessons throughout the twentieth century in New Zealand that was presented in the previous chapter had led to the development of these disaster management processes and procedures. The following theme continues on with this topic of development as groups become more established.

### *Becoming established: challenges and lessons*

The second core theme moves on to consider how disaster lessons predominantly were constituted by post-quake groups as they progressed through the earthquake recovery. This theme presents contemporary disaster lessons of emergent groups and these lessons can be linked to historical operations of knowledge about disaster lessons that have produced and sustained this practice today. Participants’ narrated lessons in bureaucracy, funding obligations, trust, leadership and work management. Some of these lessons were around the challenges, the post-quake groups came across as they engaged in the earthquake recovery. Organisational lessons often led to a development in the groups’ structure or activities. Participants’ narratives revealed that post-quake groups emerged as loose groups, with no organised structure or defined roles but as these groups’ learned lessons, they became more established and structured.

## *Bureaucracy*

Bureaucracy emerged as a prevalent theme in the data, with many participants referencing the challenge of bureaucracy. Bureaucracy was presented as a dominant organisational discourse that influenced post-quake groups' and their activities. Groups often had to go through bureaucracy (administrative processes) to actively engage in the recovery. Post-quake groups became engaged in bureaucracy and through this had to act in accordance to internalised rules. Bureaucracy was constructed by participants' as administrative processes, paperwork and regulations. Participants often highlighted bureaucracy as a challenge that complicated and prolonged the group's activities and projects. Bureaucracy was narrated as an external system that groups' had to figure out and go through, this often led to organisational learning, which was framed as disaster lessons.

Participant three: *The biggest, hardest bits were around um the sort of permits and regulations and kind of the bureaucracy side of things. . . our first project. . . it looks like something you could roll out in a couple of hours but actually it took um a few weeks of work to get it together and I show people that image and say, you know um ninety percent of the work is invisible you can't actually, you know, ninety percent of the work was not actually creating the project or doing the thing that is what you want to be creating and putting out to the world; it was getting legal agreements with the property owners, figuring out public liability insurance policy.*

In the extract, engaging in bureaucracy was normalised as an organisational practice that was required to complete projects. The participant constructed bureaucracy as permits, regulations, legal agreements, public liability insurance policy and the invisible work behind the scenes of projects. Bureaucracy was noted to be excessive with 80 to 90 percent of projects being made up of bureaucracy. The group learned that bureaucracy was challenging because of the time it took to complete. The participant suggested that the group's projects had become about getting through the bureaucracy rather than creating and putting projects out to the world, which was ideally what the participant wanted.

In the following extract participant fourteen drew on bureaucracy through information access.

Participant fourteen, Empowered Christchurch: *We have been reduced to OIA's because we have been blocked from getting information so that applies at both Council level and EQC. Another tactic has been for EQC to say this is not our responsibility it's Councils responsibility and Council will say that's EQC's responsibility, ECAN or any other entity than the person you are talking to. For a long time, we went around in circles and now, now we just save time by putting in OIA's, you may wait a month and then they may get an extension to six weeks but you get some kind of information, even if its heavily deducted at the end of the process.*

Participant fourteen talked about information access through bureaucratic and political discourse. The post-quake group were blocked by the government from accessing information. This led to the participation in bureaucratic and legislative authorisation practices to access information through the Official Information Act (OIA). The OIA was legislation that allows public access to information in New Zealand. The participant noted a tension with government over information exchange. The participant talked about information being withheld as a tactic of governance along with responsibility being passed on, which was all exchanged through bureaucratic and political discourse. Blocked information and passing responsibility among government entities was presented as a political strategy that was challenging for the group because they “went around in circles”. A lesson the group learned was to access information through applications under the OIA to save time.

In the following extract, bureaucracy was noted to be important to produce results in the earthquake recovery.

*The Student volunteer army (SVA) uses a pattern of communication to discover who needs help, and who wants to help, together with the flexibility to do what is needed to help them. To produce those results, SVA and many other Christchurch volunteer groups have no option but to deal with the bureaucratic machines in charge. (Johnson, 2012, p.20)*



*Processes and manuals were stagnant, outdated and irrelevant to our generation's spontaneous, modern and impatient volunteers. (Johnson, 2012, p.20)*

The extract revealed that the group had to go through bureaucracy to achieve results. The SVA established a form of communication that aimed to find out “who needs help, and who wants to help”. The group used this information, and were flexible to do what was “needed to help”. To achieve these results, the SVA along with other groups had to engage in bureaucracy. Johnson (2012) noted that they had “no option” but to engage in bureaucratic practices. The lesson was that official bureaucratic processes and manuals were “stagnant, outdated and irrelevant” and this was positioned in contrast to the youth who made up the SVA who were “spontaneous, modern and impatient”.

In the following extract, participant three drew on the excessiveness of bureaucracy.

*Participant three: When you're trying to do a little tiny project for six hundred dollars on a volunteer effort like what we were trying to do. The amount of paper work and bureaucracy actually would stop most people from doing the project at that scale. That was a big learning and so from the start a big part of our role actually then became about lobbying Council trying to change the regulatory framework and the bureaucracy to say, look there's a whole plethora of potential events, amenities and activities that people would create but they don't because of the thresh hold of how much paperwork and all of that, that they have to go through.*

Participant three constructed bureaucracy as paper work that the group had to undertake. The lesson was in the amount of paper work the group had to complete to create small projects. The participant noted that the amount of bureaucracy required for small projects or events was not appropriate for the post-quake group who had limited funds and ran on volunteer efforts. The participant suggested that it was a potential barrier that would stop people from creating projects and this led the group to lobby Christchurch City Council to make changes to the regulatory framework

around creating small public projects, events and activities. The changes advocated for were the reduction in the amount of paperwork and administrative processes that were required to create public projects. The group initially thought the Christchurch Council had power over bureaucracy to make changes but they discovered that the council was under the same bureaucratic restraints (the amount of bureaucracy) that the group was under. In the above extract, the participant presented the idea of framing recommendations as disaster lessons. Constructing disaster lessons as recommendations is an idea that has been reproduced and can be linked to New Zealand's disaster management system, which marks a point in the genealogy where we can see ways of thinking and doing being reproduced.

## *Funding*

Funding was a lesson that emerged from the data. Funding was accessed by seven post-quake groups that were interviewed. Access to funding was associated with post-quake groups becoming established. Post-quake groups learned that with funding came obligations to formalise and become registered charities. However, funding was not accessible to all groups and this was poised as a challenge for one group.

Participant three: xxxxxx *(the post-quake group)* wasn't a thing, it was just like a small group of us who got together and created a project but there was no organisation called xxxxx *(the post-quake group)*. Umm that was true for probably seven or eight months and then around May twenty eleven, so quite a few months after the February quake Christchurch City Council gave us our first chunk of funding to keep doing what we were doing. We had done maybe five or six projects at that point entirely self-funded off our own backs voluntarily or whatever and when they offered funding obviously they couldn't just give thousands of dollars you know Christchurch City Council public money to me so we had to create an organisation so we created a charity.

The participant constructed organisational discourse in relation to funding. The participant noted that the group initially began as a small group of people who created projects that were self-funded. The group learned that once they got funding, there

was an expectation that the group would become more formalised because the Christchurch City Council “couldn't just give thousands of dollars” away. There were obligations attached to the funding that have shaped the group. The funding led to the group becoming a charity.

Participant two from another emergent group had a similar experience with funding.

Participant two: *We started receiving funding from the xxxxx (funder) and in turn became a charitable trust and had to start formally taking roles and responsibilities and so it became more organised.*

Organisational and funding discourse constructed the groups behaviour to form a charitable trust. In the extract, funding led to the group becoming more structured particularly as they transitioned into a charitable trust, taking on formal roles and responsibilities. With access to funding came ideas about organisational structure and formalities. Emergent post-quake groups, as depicted in the extracts above, had learned to become formal organisations with regulations around funding having played a role in this.

In contrast to post-quake groups becoming established through funding, the following participants discussed challenges accessing funding.

Participant twelve, Empowered Christchurch: *We asked for funding for Empowered Christchurch by the Council and we were declined, we have asked the Red Cross, declined.*

Participant thirteen, Empowered Christchurch: *So it's the people who play along that are funded and supported and the people who ask difficult questions are marginalised and excluded that's what we have been seeing.*

In the extract, participants twelve and thirteen referred to tensions about funding. Funding was constructed to have come with particular social rules around behaviour and there are consequences for not following these rules as experienced by the post-quake group. The group has had difficulties accessing funding due to being declined

by local government and the Red Cross. The lesson was that those who get funding are those who work with the funders and those who do not “play along” are marginalised and excluded. The funders it was suggested, wanted people in post-quake groups to cooperate with them. Asking “difficult questions” as experienced by the group, caused financial exclusion. This drew on ideas about reciprocity; those that “played along” got funding and those that did not were not rewarded with funding.

## *Trust*

Trust was constructed as a disaster lesson through the participants’ narratives. Trust was an organisational quality that was reflected on by participants to be important to the functioning of post-quake groups. Trust was prominently constructed through relationships that were formed within and outside of the post-quake groups.

Participant four: *We were lucky um because the xxxx (funder) foundation and the xxxx (funder) foundation are philanthropic organisations for some reason before my time they agreed to some high trust contracts that basically were just um paying for us year to year and I think that was because they knew we were um, we had a sunset clause written into our um constitution as an organisation so they knew we were only trying to be here for a limited time to accomplish things that were very specific and so they um they allowed us to continue with that really high trust funding and they trusted us to actually do it.*

In the extract, the participant discussed trust through formal contracting language. The participant suggested that funders agreed to high trust contracts. High trust was a specific approach to funding that came with expectations and guidelines. The participant suggested that a high trust contract was agreed to, based on the group’s sunset clause. The sunset clause was part of the group’s constitution, which was a governing document that organisations generally have. The sunset clause outlined outcomes the group would achieve within a certain period. Trust was placed on the group’s governing organisational documents by funders. There was an expectation that the group would stay true to the sunset clause. The group’s purpose was to

accomplish things in a limited time, this was suggested to have driven the continuation of the relationship and funding. A lesson was in the emergent group having a constitution that outlined what the group wanted to achieve in a limited time which led to funding opportunities. In the following extract the participant drew on their engagement in a lessons learned project.

Participant four: *Our lessons learned right now, we are interviewing a lot of those people and getting feedback. . . the reason agencies continued to meet with us is because we didn't throw them under the bus in the media or hard out among our residents and among our members, so if we had done things differently by calling them out in the media, calling these people out in the media and the agencies, too heavily then we would of broken trust and not been able to continue having these relationships that gave us a door into those strategic conversations, where we were able to add some influence but the tension was always how do we show the members um that we are trying our best to get these things accomplished that they are frustrated about while also not throwing the agencies under the bus.*

Disaster lessons discourse was constructed through the group engaging in a discursive practice: the lessons learned project. The group interviewed agencies and through this, lessons were constructed. The post-quake group learned that agencies continued to work with them because trust was developed. Trust was established because the group did not “throw agencies under the bus” in the media or among residents and members. Maintaining trust with agencies enabled the group to be part of “strategic conversations” where the group could add influence. There was tension in showing members what the group had accomplished because to do so, the group would have been throwing agencies “under the bus” and then the trust would have been broken. The post-quake group had to negotiate relationships to maintain trust and how this was achieved depended on the relationship and the aims. The relationship the group had with agencies was to have “strategic conversations” with them to add influence for the benefit of residents and the group’s members. Knowledge of inter-organisational trust was constructed out of the lessons learned project and this informed the post-quake group on how the relationship could be maintained.

In contrast to the development of trust and its maintenance, the following participants drew on expectations that led to breakdowns in trust and mistrust. The lesson the group learned was not to trust anyone. The demise of the participants' trust occurs in the post-quake group's relationship with government and insurance agencies.

Participant fourteen, Empowered Christchurch: *Don't trust anyone. You know we were so naive we thought, oh we are so happy that we were with Southern Response because it was with the government and they would do the right thing how naive was that.*

Participant twelve, Empowered Christchurch: *We had blind trust then we are of the opinion that the blind trust that people had here after decades of proper society and society existed and there were things done for the benefit for the society. The blind trust which was born as a result of that, born you know and was assumed that has been harvested there is not trust anymore, it is all gone.*

In the extract, trust discourse was constructed through blind trust, distrust and expectations of government and insurance agencies in the aftermath of the Canterbury earthquakes. The biggest lesson the group learned was not to trust anyone. Participant fourteen initially thought they did the right thing getting insurance with Southern Response (a government owned insurance company) because of its association with the government, which was trusted. This approach drew on a social contract trust, which was a social contract between citizen and state that they will help and support citizens in the event of a disaster. However, in the aftermath of the earthquakes, reciprocity was not shown and this led to disappointment because the participants thought they would be treated fairly rather than mercenarily and this expectation was not met. The participants' accounts reflected an economic transaction of trust, which was a type of trust that draws on reciprocity as an exchange transaction. Participants had the attitude that Southern Response and the government would do what the participants had trusted them to do; there was an expectation. There was a sense of disappointment and betrayal because they violated the trust. Participant twelve talked about the previous existence of a "proper society", which had rules around trust and fairness and things being "done for the benefit of society". Blind trust was noted to have developed out of proper society but the reality of this proper society had been

tarnished. Expectations of proper society gave the participants a sense that in an uncertain event, like the Canterbury earthquakes the government would do the “right thing” by people. In part, this group’s emergence in the recovery resulted from the distrust members had of the government and of insurance agencies to be accountable for those roles they played in the disaster recovery. The breakdown in trust impacted the group and their relationship with government. This group highlighted the failings of government; these failings were framed as disaster lessons. This idea has been sustained and reproduced through the genealogy as presented in the previous chapter; an example being the Wahine storm in 1968 where failings of civil defence were identified.

### *Leadership practices*

Participants in the following excerpts constructed lessons in leadership. Participants presented leadership as a normalised practice within their groups. In the interviews, leadership was discussed in relation to staying relevant as a leader, reevaluating leadership, learning from mistakes and gendered leadership practices. In some of the extracts participants drew on their leadership position and others drew on the leadership practices of others.

Participant four: *A leader needs to evolve otherwise they stop being a leader. The space changes, the space evolves and the needs evolve and people come and go um into that space so if you want to stay relevant as a leader you need to be able to constantly reevaluate what you are doing and why you are doing it and should you be the one to do it and if you can't do that then you get left behind or you are at the community space that is no longer relevant and you get left at the gate or a goal that is no longer relevant yeah and they'll really stop following you because of that. . . that is something we saw.*

The participant suggested that a lesson in leadership was to evolve as a leader; to stay relevant. The participant offered lessons in how to stay relevant as a leader and that was to “constantly reevaluate what you are doing and why”; this was noted to be required because the community space evolved along with the needs of people. This

process of leadership evaluation was about maintaining leadership. The participant noted that once a goal or a leader becomes irrelevant “they’ll really stop following you”. The participant reflected back on this discussion of leadership being something that the group experienced.

Another participant from another group drew on lessons about their leadership.

Participant eight: *I learnt a lot of, I would say some leadership lessons because I made some mistakes along the way and it was for me, it was to be able to learn from those and to take that away and say yeah I can um you know I can learn from this I can adapt; I need to adapt to this particular style or aspect of my leadership style because it isn’t particularly helpful or fruitful for achieving things or you know I can be a bit too blunt I need to kerb that and all those you know. I could rush off at a hundred miles an hour and I need to slow that so um yeah a lot of the leadership lessons were so pivotal for me and that was what I really, they were the key things.*

Participant eight discussed a reflective learning process of leadership, wherein leadership was practiced, mistakes were made and learned from and lessons were used to adapt to the participant’s leadership practices. The participant noted that leadership was not rigid, there are many styles and aspects of leadership. The participant reflected on their leadership at times not being “helpful or fruitful” to achieve things because they were “a bit too blunt” and needed to restrain from this, along with rushing “off at a hundred miles as hour”. The participant reflected on this through their experience of leadership, which was now constructed as a lesson learned by the participant. In the following extract, lessons in gendered leadership are discussed.

Participant eight: *Your male and female approaches to leadership is huge, hugely different and so that for me was really a learning curve. So with men they are just very task orientated and they want to be told, yeah ok how do I do it and why am I doing it, ok I’ll go and do it you know? That was sort of it, and female leadership and female engagement is more about trying to understand the heart and the emotional core of the issue, particularly with the helicopters*



*they wanted to connect with the people and so you had to try and balance it and I didn't always balance it and get that right and um I had issues at times as a result but I think for me it's been a real learning curve.*

Participant eight constructed a lesson in leadership that was influenced by the participant's experience of male and female engagement and practice of leadership within the post-quake group. In the extract, men and women practiced leadership through a gendered discourse. Attention was paid to masculine and feminine styles of engagement and doing leadership. Males were noted to be "very task orientated" and wanted to be told "how do I do it and why am I doing it" and then they would "go and do it". In contrast, females were said to "do leadership" by "trying to understand the heart" and the "emotional core of the issue". Female engagement particularly in the post-quake group was about connecting with people. The participant suggested that the group had to "try and balance" male and female styles of leadership and engagement, which was noted to be a "learning curve".

## *Burnout*

In the aftermath of the Canterbury earthquakes post-quake groups played an important role in the recovery. Some participants talked about burnout and stress, with this being a lesson in work management and self-regulation for members/volunteers in post-quake groups'. In the extracts, burnout was referred to as exhaustion and negative mental and physical health impacts. Burnout was attributed to unsustainable workloads, a lack of self-regulation and problems in self-management.

Participant one: *Initially we worked really, really hard. Yeah and I think that was really unsustainable um how much time and effort we put into stuff, we threw ourselves at it, um and that can be quite lethargic and good but it's not sustainable long term and it's part of that learning and growing up process.*

In the extract, work management and sustainability discourses were discussed in relation to the group's initial workload. The group's initial workload was cited as being "really unsustainable". As a result of the workload members became exhausted

and from this they learned that the hours of work they were putting in, were not sustainable in the long term. The participant further suggested this was part of “learning and growing up” as an organisation.

In the following two extracts, participants discussed mental and physical health outcomes as a result of their participation in the earthquake response.

*Participant eight: One of our key people um who was in a leadership role and ended up, ended up having to be hospitalised for the stress and it was a young player’s mistake this person is a really good person and they wanted to help and they, they didn’t self-regulate or self-manage. . . it really threw her in to a huge stress black hole.*

In the extract, the participant reflects on a member from the emergent group suffering from stress and having to be hospitalised. The participant suggested that stress and hospitalisation occurred in part because of the member’s role as a leader in the group, the member was suggested to have been a “young player” which suggested a lack of experience. The lesson the participant constructs from this was that it is important to “self-regulate or self-manage” this was reflected as a coping strategy.

In this second core theme, disaster lessons have been framed through ideas about organisation, formalities and challenges and such frames have been used to influence New Zealand’s formal disaster management system since its emergence which has been reflected through the genealogy. Both emergent groups and state level disaster management have identified challenges or weaknesses relating to their performance or the performance of others following a disaster. These challenges are framed as lessons that have led to developments which present a particular truth about disaster lessons that has been replicated. The next core theme moves onto the distribution of knowledge as emergent groups talk about sharing disaster lessons.

## *Communicating disaster lessons*

In this section, the genealogy moves onto the third core theme that emerged from the data, that is communicating disaster lessons. In the previous chapter, a history of sharing disaster lessons was traced and this continues as emergent groups replicate this practice as they plan, capture and share lessons learned from their involvement in the earthquake response and recovery. Some post-quake groups' discussed sharing disaster lessons through contemporary discursive practices that included disaster management plans, reports and an emergency management conference. Disaster lessons were also utilised by some post-quake groups' as they replicated projects and held advisory roles sharing lessons.

## *Reflections on disaster lessons*

In the following extracts, post-quake groups contemplated generating disaster lessons. Participants noted that there were many lessons to be learned, that it was inevitable to learn lessons and build on them. Disaster lessons were projected by post-quake groups as a normative practice that occurred after a major disaster. This reflects what was revealed in the genealogical inquiry into disaster lessons in the previous chapter. Post-quake groups reproduced this idea in the following extracts

Participant ten: *We have come a long way it is what it is um there's a lot of lessons to learn.*

In the extract, the participant drew on lessons and the progress of the group. The post-quake group were suggested to have come a long way since their emergence. The participant used the idiom "it is what it is" and there was an acceptance of the group and the progress it had made during the earthquake recovery. Disaster lessons discourse was presented here as a truth, a normalised practice that was engaged in and was expectable.

In the following extract another group discussed capturing disaster lessons.

*Now that we have come to an end it's inevitable we start to reminisce about the highs and lows, the what ifs and maybes. We plan to capture and share the lessons learned.* (Fleming, 2015, para.1)

Fleming (2015) from CanCERN, in their last newsletter, constructed disaster lessons discourse through talk about capturing lessons learned as the organisation came to an end. Fleming talked about producing lessons by capturing the “highs and lows, the what ifs and maybes”. Generating lessons as the group came to an end was suggested in the extract to be a normative practice.

In the following extract, another group discussed opportunities to volunteer and construct lessons learned.

*We have established the SVA Foundation to promote opportunities for young people to be engaged in volunteering and to build on the lessons learned and opportunities realised from the volunteer response to the Christchurch earthquakes and other disaster related experiences.* (Johnson, 2012, p.22)

In the extract, discourses on volunteering and disaster lessons are constituted through the emergent group establishing the Student Volunteer Army (SVA) foundation. Part of the Foundation’s purpose was to engage “young people” in volunteering “opportunities” which was a way to actively engage young people in the group. Johnson (2012) suggested the other purpose for the foundation was to “build on” lessons learned. The group’s lessons are “realised from the volunteer response to the Christchurch earthquakes and other disaster related experiences”. The group’s disaster volunteering experiences have been framed as disaster lessons. The Foundation is a way of sustaining the group and their activities.

## *Disaster management and lessons*

Outlined in the previous chapter was the historical tracing of disaster lessons, which has constructed this knowledge and behaviour to become an intervention within disaster management systems (Anais, 2013). In this section, I explore how post-quake

groups reproduced this knowledge and behaviour as they engaged in disaster management practices. Disaster lessons were constituted as post-quake groups engaged in discursive practices including participating and sharing lessons in international disaster recoveries, engaging in disaster management after-action reports and conferences.

*Shortly after the February 2011 earthquake in Christchurch, Japan experienced a large earthquake, tsunami and nuclear plant meltdown. Global DIRT asked Sam Johnson and the SVA to help organise Japanese university students develop a similar volunteer program. (Student Volunteer Army, n.d, para. 7)*

*Additionally, members of the SVA worked with Global DIRT to help New York City recover after Hurricane Sandy. (Student Volunteer Army, n.d, para. 7)*

The extract came from a report published by the Ministry of Civil Defence and Emergency Management where the Student Volunteer Army (SVA) discussed their involvement in international disaster response. After the February 2011 Canterbury earthquake, the SVA, was invited by Global DIRT a non-governmental organisation focused on disaster response to help organise a volunteer program similar to the SVA. The SVA was tasked with replicating their group by organising and developing “a similar volunteer program” with university students. Knowledge was constituted through the SVA’s disaster experience. The SVA established a relationship with Global DIRT and continued to work them to “help New York City recover” after Hurricane Sandy. The SVA moved beyond the Canterbury Earthquake to engage in international disaster recoveries.

In the following extract, another participant from another emergent group reflected on a specific disaster lesson that was shared at an emergency management conference.

*Participant seven: I am about to go down and speak at the South Island Emergency management conference in Queenstown and part of the message that I will be delivering will be that regions do need to have somewhere to base themselves a bit of flat land away from any trouble where they have some*

*facilities that are ready to go. Um you need to be able to plug in and go and I think that's really, really important. . . it needs to be slightly out of town, so like with the (2011) earthquake in Christchurch you couldn't drive through town you had to use all the ring roads around the outside to get to where you want.*

Participant seven constructed lessons from the post-quake group's experience in the recovery, which was being used as a form of knowledge to inform future emergency management. The group based themselves on flat land that was away from earthquake-affected areas and this was constructed as a good practice that was recommended to be repeated in the future. This practice was promoted at a conference for regional emergency management planning. Knowledge was acquired through the group's experience, which was then in turn shared with others. The lesson narrated at the conference constructed disaster lessons as a form of knowledge useful for the future. The participant offered a lessons in preparedness; lessons in preparedness have been replicated and sustained through historical accounts presented in the genealogy. In the following extract, the experiences from the post-quake group were employed into another organisations disaster management plan.

*Participant seven: xxxxxx (organisation) have just gone through and are setting up an emergency management plan at the moment and they are using some of the knowledge from the whole xxxxx (post-quake group) thing to help them with that management planning.*

In the extract, the participant explained that lessons had been constructed around the post-quake group's earthquake response experiences and this knowledge had been employed into another organisation's emergency management planning report. The experiences or "lessons" of the emergent group were constructed as a form of knowledge that had been socially accepted. Disaster lessons used for emergency/disaster management planning have been historically reproduced which demonstrates the genealogy and specific ways of thinking and doing.

In the following extract from a Ministry of Civil Defence and Emergency Management document, lessons from the Student Volunteer Army were generated to inform volunteer groups.

*Some lessons are particularly worth passing on to enable other volunteer groups:*

- 1. Leaders at every level. Volunteer efforts require leadership, and every single leader is as important as the next.*
- 2. Big teams. Many hands make light work.*
- 3. Instant gratification. They like to see themselves making a difference. This was essential in maintaining motivation and enthusiasm.*
- 4. Food. The amount of time volunteers would commit naturally hinged on their energy levels.*
- 5. They're volunteers, not free labour. Volunteers are motivated by a desire to help individual families, real people. They made a direct correlation between the cause they were volunteering for and the task they were actually completing. Anything removed from this, we discovered, led to protest and resentment.*
- 6. Keep it simple. They dislike logistics and are not good at it. We made things very simple, so people didn't have to think about anything but the task at hand. (Johnson, 2012, p.20-21)*

In the extract, lessons are constructed and shared by the Student Volunteer Army (SVA) as part of disaster management discourse. In the extract, Johnson noted that, lessons can be passed on to enable other volunteer groups. The lessons discussed, focused on people in the SVA who were identified as volunteers. The lessons related to what worked and what did not work and this advice was framed as lessons learned. The author generalised from the SVA experience to construct six lessons for other volunteer groups. The first lesson was about leadership which was noted to be important to the function of the group at “every level”. The extract suggested, “volunteer efforts require leadership”. The next lesson “big teams” drew on the idiom “many hands make light work” which suggested that the more people you have in a team the sooner the work can be accomplished. The group functions and works as a collective. The next lesson was about “instant gratification” which was noted to be a

motivator for the volunteer's engagement and "enthusiasm" in the earthquake response. Gratification related to volunteers seeing they are "making a difference". It was important for volunteers that the work they were doing was having an impact. Another lesson was about food and feeding volunteers. Food was noted to correlate with the "energy" levels of volunteers. Food is a motivator for volunteers to work. The group learned "volunteers are not free labour" rather the suggestion was that volunteers are there for a purpose and anything "removed from this" can lead to "protest and resentment". Volunteering in the disaster context was based on the volunteers' "desire" to help people. According to this perspective, volunteers are not there to do any task, their motivation lies in helping people. The last lesson in the extract was to "keep it simple" and this was recommended to be achieved by volunteers having a sole focus on the "task at hand". Volunteers were suggested to "dislike logistics", the organisational processes, because they are noted to be complex. The lessons listed in the extract emerged from the group's experience of managing volunteers. The lessons were produced as a framework for future volunteer groups' and as part of the disaster lessons discourse to which lessons are produced to help manage disasters in the future.

## *Replicating disaster lessons*

In this section discussion focuses on how post-quake groups' experience and knowledge "lessons" were shared as they replicated successful initiatives. Post-quake groups talked about replicating themselves through frameworks, along with groups becoming involved and advising on projects internationally. Post-quake groups drew on their experiences and thereby formed the lessons that were shared.

Participant six: *What I think we are gunna do is set out a clear and simple framework so that it can be easily replicated but adaptive as well.*

Participant six: *There is no reason the xxxxx (post-quake group) can't be replicated everywhere else in the world in any city or in any town.*



In the extract, the participant discussed the post-quake group being replicated. The participant suggested that there was “no reason” the group cannot be reproduced “everywhere else in the world in any city or in any town”. The participant discussed potentially engaging in replicating the group through a “simple frame work” which seemingly projected a potential lack of awareness of the diverse cultural ideas and values. However, the participant noted that there will be freedom within the framework, that it was “adaptive”. The participant noted that the best practices or lessons learned from the group’s experience would be incorporated into a framework to guide new groups’ to replicate them.

In the following extract from a news article, an emergent group talked about one of their projects potentially becoming commercialised.

*The group has written a detailed instruction manual on how to build and operate a successful Dance-O-Mat. Interested City Councils or organisations would buy the manual and pay a licence fee for the right to build their own.*  
(Gates, 2015, para.2)

*The possibility of the Dance-O-Mat becoming a global franchise was never considered when it was first designed.... We certainly never set out to make something to sell over the world.* (Gates, 2015, para.4)

The extract came from an online news article. The extract discussed Gap Fillers project Dance-O-Mat becoming commercialised, which was a shift from the group creatively responding to the local needs following the earthquakes, to commercialising a concrete fixed response to be applied. The group had written a detailed instruction manual which drew on the groups experience and knowledge to “build and operate a successful Dance-O-Mat” that could be sold. The Dance-O-Mat was regulated through product licensing regulations. This resulted in the group being paid a license fee for the right to build the product. Through the replication of the Dance-O-Mat the group created an income stream. The extract drew on the possibility of Dance-O-Mat becoming a global franchise. This commercialised activity was not something the group initially set out to do, as emphasised in the extract.

The next participant in the following extract discussed international interest in replicating their group's project on community engagement in public spaces.

Participant three: *We have had a lot of interest from a lot of cities around the world, I have done work in Sydney and in Copenhagen.*

Participant three: *There is really an interest and desire for more xxxxx projects, more community engagement in creating public spaces and all of that and so yeah we are getting asked to be involved in projects all around the world and give a little bit of advice to projects all around the world, that's got nothing to do with disaster recovery um and so it's amazing.*

The post-quake group received interest in their projects from around the world. The group began creating projects as part of the earthquake recovery. There was a specific interest on projects that focused on creating “community engagement in public spaces”. The group was asked to be involved in creating spaces for community engagement because these projects are suggested to have been successful in Canterbury. The group's experience in creating these types of projects generated interest in them becoming advisors on international projects. The group, through their experience and knowledge with these community projects, went on to offer “advice” and were “involved in projects” internationally. The participant expressed excitement stating that “it's amazing” to be engaged in activities beyond the disaster recovery.

The third core theme centres on talk around emergent groups sharing lessons which often manifested through sets of routines and actions. Participants constituted lessons through after action strategies which were often by way of reports. The practice of sharing disaster lessons has persisted throughout history which has influenced its prevalence as a post-disaster activity today.

## *Conclusion*

In this chapter, findings were presented as a genealogy of the present day practice of documenting and identifying disaster lessons through post-quake groups from the

Canterbury earthquakes. The findings showed how particular ways of understanding (or discursive “truths”) can come to dominate ways of thinking and doing. The findings highlighted the way participants from post-quake groups understood disaster lessons in ways that framed organisational learning as successes, challenges and failings, along with how disaster lessons were engaged in, by post-quake groups’.

The genealogy presented in chapter four, tracing disaster lessons, and the chapter five findings, historically traced a fluid idea of disaster lessons. Disaster lessons have been influenced by a range of ideologies that have become politically established as a process of disaster management, which was practiced by post-quake groups in Canterbury. Disaster lessons today are a normative post-disaster practice that is associated with the state’s disaster management system and this was highlighted in the findings. While conducting this genealogy, governmentality, as a theory of governance that was associated with self-regulation became apparent. This theory has explanatory power in relation to the findings. In the following chapter neoliberal governmentality will be used to theorise the genealogy of disaster lessons.

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## 6. *Discussion*

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### *Introduction*

Foucault's method of genealogy was used to develop an understanding of how disaster lessons come to dominate thinking and practices associated with the post-disaster period. The disaster lessons of emergent post-quake groups that developed following the Canterbury earthquakes were used as a case study to demonstrate the present practice of documenting and identifying disaster lessons. A historical tracing of disaster lessons has revealed that the practice has been shaped through histories of disasters that claimed a particular way of knowing, or “truth” about the post-disaster period, which has influenced the practice today by emergent post-quake groups. This chapter will present an explanatory “reading” of the findings by way of a counter narrative of disaster lessons as a form of neoliberal governmentality. This will be used to explain the dominance of disaster lesson as a governing rationale that shapes the thinking and conduct of emergent post-quake groups in Canterbury.

In this chapter neoliberal governmentality becomes visible as disaster lessons can be seen to take the form of an intervention that shapes the conduct of emergent post-quake groups in a particular way towards self-regulation, which is the defining characteristic of governmentality (Foucault, 1991; 1994). Post-quake groups’ disaster lessons are framed as organisational lessons that often coincide with the groups’ organisational development. The findings highlight post-quake groups constructing and regulating themselves to produce disaster lessons through discursive practices and some of these practices included governmental techniques and strategies such as after-action reports and documents. This chapter will focus on disaster lesson critiques and failings that are highlighted in the literature and in the findings chapter. Examples of the experiences of emergent groups from the findings will be used to problematise the conventional understanding of disaster lessons. This problematisation aims to question the self-evident “truth” that disaster lessons are about learning and implementing change. Instead, as highlighted throughout the chapter, disaster lessons

are about governing through self-regulation, which have been fostered through technologies. Theories that suggest there is also room for agency and resistance offer a critique of the idea that governmentality is all encompassing. However, as highlighted by Burr (1995) and Sawicki (1991), Foucault's ideas still allow for a type of agency, which supports my use of the theory of governmentality in explaining the thesis findings.

## *Disaster lessons as neoliberal governmentality*

Disaster lessons can be understood as an expression of neoliberal governmentality that shapes and guides the conduct of the population. Disaster lessons is a form of knowledge that has been constituted through historical forces or practices of religion, science and judiciary disaster management. These practices have influenced the type of lessons that have been learnt. Religion has been concerned with lessons in morality, worshipping and pleasing the gods. Ancient Greeks and Romans believed that the gods had the power to unleash disasters but they also played a role in protective factors against disasters (Kte'pi, 2011). Science has led to knowledge about the nature of disasters, which has encouraged actions around weakening a disaster's impact with related disaster lessons (Quarantelli, 2000). State disaster management saw disaster lessons framed through formal and regulatory practices.

Disaster lessons as a rationality has inscribed itself into practices of the state's disaster management system (Foucault, 2000). When a major disaster occurs, human performance regarding how the event was managed and how to reduce the worse impacts is examined and this information is generated with the aim to inform disaster management practices in the future (Birkland, 2009). Disaster lessons have historically been inscribed into practices that aim to mitigate, manage and reduce the negative effects of disasters. Today, disaster lessons have become a program of thought that has come to be taken for granted. This suggests governmentality in that disaster lessons have become a normative practice and a way of thinking. Disaster lessons have been shaped and moulded by a history of disasters that claimed a particular way of knowing or "truth" about the management of disasters.

## *Neoliberal governmentality*

Foucault's theory of neoliberal governmentality offers an opportunity for a detailed examination that allows for the emergence of insights and understandings of how particular concepts play a part in constructing governable spaces. Neoliberal governmentality places emphasis on the government playing a limited role and governing from a distance to foster free conduct. A part of this process includes the embedding of norms and values within social institutions and practices (Joseph, 2013a). This can be seen where in the history of disasters there has been an embedding of disaster lessons and this has become a norm. The norm gets understood through values around social well-being, management of disasters and mitigation, which surround the concept of disaster lessons. In the genealogical chapter the tracing of the state's disaster management system in New Zealand showed an embedding of a particular truth about disaster lessons as a method of analysing the pre-disaster period and learning from disaster events to avoid the worse effects and to repeat successes. Disaster lessons are used as a method to enhance knowledge about managing disasters (Birkland, 2009; Pfister, 2009; Plumper, Flores & Neumayer, 2017). This truth or rationale underpins disaster lesson strategies and techniques, which work to mobilise citizens to engage in and produce disaster lessons.

In the course of forming neoliberal subjects, neoliberal discourse and practices are of appeal to citizens who are "free" to take responsibility for themselves and their choices but are also required to follow particular rules of conduct. Governmentality functions by guiding us to be active, independent and responsible citizens.

Neoliberalism functions through the social construction of freedom and the governance and organisation of the environment so we can be free (Joseph, 2013b). Disaster lessons fit within neoliberal forms of governance as individuals self-regulate to manage disasters by constructing disaster lessons as active citizens. Post-quake groups have placed the responsibility of producing disaster lessons on to themselves and have a heightened self-awareness about disaster lessons as a practice that had to be engaged in, as a process of disaster management. Disaster lessons have been described by post-quake groups as inevitable and, for example, participant seven in this research noted that it is "really, really important" to share some of these lessons (Fleming, 2015; Participant seven). Participant seven suggested that an important

lesson learnt by the group, that should be shared, was that in the event of a disaster regions in New Zealand should have a base, a flat piece of land that is slightly out of town or the main city, where there are “facilities ready to go”. Neoliberal governance through freedom is exemplified in this example as the participant could be seen to be constituted as free and autonomous but at the same time the participant was persuaded towards achieving the political goal of generating and sharing disaster lessons (Joseph 2014; Rose, 1999).

The idea of governing from a distance emphasises self-organisation and that the state should not play a direct role in that process (Joseph, 2013b). New Zealand’s Ministry of Civil Defence and Emergency Management guides those who participated in disaster response and recovery to produce disaster lessons for themselves, as exhibited in the example above, and this has also been seen through particular practices such as disaster after-action reports. An example of a report that post-quake groups engaged in, was the 2012 Ministry of Civil Defence and Emergency Management report on community resilience. In the report, there were case studies of emergent groups and the lessons they learnt (Cholewa & Mamula-Seadon, 2012). This reflects the government pushing a particular agenda. The government constructs a domain of governance, which is overseen from a distance through the use of policies. Policies place emphasis on people, communities and the private sector to take charge of their economic and social well-being (Joseph, 2013a). Post-quake groups have taken up the practice of documenting and identifying disaster lessons and by doing this they help bear responsibility for this aspect of disaster management. Disaster lessons is a practice that supports neoliberal governance because citizens such as those in emergent group productively generate disaster lessons as acts of disaster management. Emergent groups showed that they were active and responsible and were able to construct disaster lessons as a practice to manage future disasters.

## *Technologies*

Technologies of power underpin the political rationale of disaster lessons. Disaster lessons as a thought becomes a governmental rationale as it attaches itself to technologies for its realisation. Technologies assemble forms of knowledge through

an assortment of devices and techniques that are oriented toward the practical outcome of generating disaster lessons. Technologies of government are a collection of “forms of practical knowledge”, with methods of perception, calculated practices, expressions, types of authority, strategies and so forth, that are negotiated and transected by goals to attain specific outcomes (Rose, 1999, p.52).

Technologies and strategies were engaged in by post-quake groups as they worked to generate disaster lessons. Governmental techniques that were utilised included disaster management after-action reports, documents and conferences. As mentioned in the previous section some emergent groups engaged in government after-action reports; in these reports groups shared lessons about their engagement in the earthquake response and recovery. Another post-quake group shared their disaster lessons in a disaster management planning forum. In both of these disaster lesson tactics, post-quake groups shared disaster lessons they deemed to be of benefit for the management of future disasters. Techniques and strategies sustain and reproduce disaster lessons and these governmental techniques and strategies ensure the function and productivity of those who are subjected to them (Gutting 1994). Government disaster lessons technologies are imbued with aspirations to shape conduct with the hope of producing a particular desired effect that is to improve disaster management and outcomes of disasters and avert unwanted impacts or events.

Foucault’s concept of governmentality goes outside of the bounds of state power. Societies exercise subtle forms of power that are employed through a network of institutions and organisations, practices, strategies and techniques that regulate the populations conduct (Joseph, 2010). There were an array of disaster lesson techniques that went beyond that of state technologies, which emergent post-quake groups engaged in. Some examples in the findings included a newsletter of an emergent group, a foundation (nonprofit organisation) that promoted disaster lessons, an organisation’s emergency management plan and a volunteer program that was established through lessons. These were all techniques used to capture and share disaster lessons. These techniques reinforce the rationality of disaster lessons.



## *Problematifying the concept of disaster lessons*

Disaster lessons discourse conceptualises the importance of disaster lessons as self-evident and their identification and articulation as progressive. The knowledge system of disaster lessons within disaster management is valued by governments which perpetuate the power of this discourse. Birkland (2009) and Plumper, Flores and Neumayer (2017) suggested that following a major disaster there are opportunities to learn and reflect on disaster preparedness, response and recovery phases. Disaster lessons can provide an opportunity to reduce negative outcomes and prevent the worst effects and to learn from successes to support successful disaster management.

However, there have been a number of critiques directed at disaster lessons that challenge the effectiveness of this concept. Alexander (2012) and Ibrion, Mokhtari and Farrokh (2015) suggested that many disaster lessons are lodged and are then disregarded, ignored or are simply forgotten over time with vulnerabilities often reoccurring in a similar way following the next disaster. Various excuses come with these forgotten or ignored lessons, such as the cost that would come with implementing lessons and the complexity of doing so, and often the responsibility is passed on, and so on. Krausmann and Mushtaq (2006) suggested that lessons from past events keep being learnt anew because they have not been learned from or publicised in any systematic way. These critiques debunk the generalised idea of disaster lessons as a practice of learning that implements successes and avoids failings.

In my research, participants from some post-quake groups expressed the belief that bureaucracy required the group to make various accommodations and posed a challenge to the implementation of lessons that had any lasting and more general community change related impact. Bureaucracy was noted by post-quake groups to be excessive, rigid, stagnant, dated and inappropriate in the disaster context (Johnson, 2012; Participant three; Participant fourteen). Participant three reflected on bureaucracy being challenging for the group and time consuming when creating small projects and this lesson was taken to the local Christchurch Council. The post-quake group lobbied council to make changes to the bureaucracy so as to reduce the amount of administrative effort that was required to create small projects, so that this would

not be a challenge for people and groups who wanted to create community projects in the future. However, the lesson in relation to bureaucracy proved to be a challenge for the council to respond by making changes, because their bureaucracy was a barrier for them to implement such change.

To an extent critiques directed at disasters lessons get shut down. In the literature review and at the beginning of this section criticisms directed at disaster lessons are noted but with these criticisms comes excuses as to why disaster lessons are not learned from and may have been forgotten or disregarded. One of these excuses was presented by participant three, who talked about bureaucracy being a barrier to implementing the emergent group's disaster lesson. However, these critiques get shut down by the dominant discourse of disaster lessons that is constructed through ideas of disaster management, deterrence and adaption (Pathirage, Seneviratne, Amaratunga & Haigh, 2012). This demonstrates the effectiveness of disaster lessons as a dominant discourse in its ability to silence alternative discourses. Government is invested in the dominant narrative of disaster lessons. There is an ensemble of systems, organisations, procedures, reflections and tactics that permit the exercise of disaster lessons as a governmentality (Foucault 1979). Disaster lessons in this thesis are not about effecting change, rather they are about governance. The governmentality of disaster lessons is effective as a strategy for regulating others, and this effectiveness signifies governmentality is working in an indirect way as post-quake groups generate lessons as shown in the example above. Post-quake groups are under the guidance of the disaster lessons rationale, which is responsible for post-quake groups' active participation in the practice of disaster lessons.

Whilst the thesis argument is that disaster lessons are an effective form of governmentality, at the same time, limitations of governmentality also become evident.

### *Limitations of neoliberal governmentality*

A criticism directed at governmentality is that it does not allow for the idea of individual agency or autonomy of people because Foucault's work in relation to

governmentality depicted the subject as a construct of power/knowledge (Bevir, 1999; Gordon, 1991). It is important to note as mentioned in the methodology by Bevir (1999) that Foucault provides two different views of the subject and agency. A familiar take, as mentioned above is that Foucault considers the subject dead and depicts the individual to be a product of power. However, in Foucault's later work a type of agency does appear occasionally, where the subject can constitute themselves within the setting of a regime of power. Bevir (1999) further suggested that Foucault did come to acknowledge the subject as an agent, but he did not come to recognise the subject as an autonomous agent. An autonomous subject would be able to evade norms and techniques established by a power/knowledge regime.

The differentiation of agency and autonomy can further be explained by Bevir (1999) who suggested that agency is the capacity to make choices. Agents exist within particular social settings but these settings do not determine how agents construct themselves. While agents unavoidably "exist within power/knowledge regimes" they do not "determine the range of experiences agents can have, the way they exercise reason, the beliefs they embrace or the actions they attempt to preform". People are creative and it is that creativity that transpires in a given setting that influences people's creativity (p.65). Additionally, Bevir (1999) suggested that autonomous subjects in principle are able to at least have experiences "to reason, to adopt beliefs, and to act, outside all social contexts" and that subjects can avoid the effects of norms and techniques that are imposed by a regime of power/knowledge (p.67). Foucault rejected the idea of autonomous agents, at least in principle that subjects could rule themselves without influence from others. The extent of agency is a matter for debate. Generally, writers who apply discourse theory understand that the subject does have some negotiating power to take up or resist the positions offered to them and from this the agent can be understood as a negotiator of their identity (Bevir, 1999; Burr, 2015).

My analysis of post-quake groups presents a nuanced understanding of agency and autonomy in relation to governmentality and is in line with other theorists such as Bevir (1999) and Burr (2015) who contend that people's experiences and behaviours are more than just displays of prevailing discourses. This can be seen in the way that governmentality cannot effectively explain all the post-quake groups' narratives because these groups do display agency and autonomy.

In the literature, Quarantelli (1984) suggested that a core feature of emergent groups is that they are autonomous. Quarantelli contended that emergent groups often maintain agency as they are not subject to being taken over by other organisations. There is a tendency for emergent groups to be independent from other groups. To at least an extent, emergent groups are self-governing and independent from official disaster management systems and agencies. Recall participant seven's reflection on how their post-quake group independently participated in the earthquake recovery. The group began their participation by creating their own system to help people by getting people on push bikes to locate and phone in the worst affected areas, where teams were deployed to help. Participant seven initially suggested the group had no direction from local government and the group did not wait around for their guidance but instead the group exhibited agency and were not passive actors. The group took control of the situation and were active in carrying out actions in the recovery. Empowered Christchurch are another example of agency. The emergent group have funded themselves through the recovery. The group had been declined funding by local government and the Red Cross for asking "difficult questions". The group also suggested that they did not "play along" to the expectations of the funders, which led to financial exclusion and consequently, the group had to pave their own path.

Agency is also illustrated by some post-quake groups emerging as a form of resistance to established ways of governing during the earthquake response and recovery. Participant twelve reflected on a dissatisfaction with community representation because organisations were too aligned with the "powers that be" and as a result an emergent group was formed to take action in the recovery. Participant four from another post-quake group suggested the group emerged because people were dissatisfied with the recovery in their neighbourhoods and were noticing gaps that were not addressed and from this they took action. Another example of resistance and challenging authority was identified by participant fourteen who reflected on their group being blocked from accessing information by local and central government and to counter this, the group accessed information through the Official Information Act that enabled the group, through a legal process, to access the information they desired. In these examples there is a resistance against ways of governing and through this, these groups take their own route to countering government and demonstrating

autonomy. The examples show that these groups have agency and exhibit a subtle sense of autonomy in that they present their particular accounts in a way that does not represent the status quo.

There are some critiques of governmentality that suggest it does not allow for agency or autonomy. However, I argue, alongside others, that such critiques misinterpret Foucault's theorising. Foucault's theory of governmentality does not require such an extreme structuralist position in order for the theory to be useful. This research demonstrates that governmentality was discovered to be a good approach to explain the findings and a part of the findings included examples of members in post-quake groups and the groups themselves having displayed agency and autonomy and having changed situations through their own actions and intentions.

Sawicki (1991) suggested that Foucault's subject is "capable of critical historical reflection refusal and invention". The subject does not have control of the overall course of history, but is capable of choosing the discourses and practices accessible to them and is able to employ them creatively. The subject can also reflect on the effects of their choices as they take them up (p.103). Burr (2015) also contended that given the right circumstance people are able to critically analyse discourses that construct their lives and can claim or resist them rendering the effects they wish to bring about. Change can occur through opening up marginalised and suppressed discourses and making them accessible as an alternative, which people may shape an alternative identity. This is a method of consciousness-raising that can free people from their usual way of understanding. This perspective views the person as being simultaneously constructed by discourse and at the same time employing discourse for their own purposes (Burr, 2015). Agency can be worked towards by drawing on discursive positioning, which involved recognising the discourses and positions that are shaping one's subjectivity.

In terms of disaster lessons, agency can be employed by post-quake groups as they find ways to "do" the practice of disaster lessons in ways that are acceptable to them. Some post-quake groups achieved this by using their experiences and lessons to replicate successful initiatives. Participant three reflected on employing their experience and lessons to advise on international projects. Another post-quake group

expressed interest in replicating themselves through a framework that would draw on their experience and lessons to allow people to replicate them (Participant five). Projects have also been replicated, with one group creating a detailed instruction manual to build and operate a successful community project and selling the manual for a fee (Gates, 2015). These examples show that post-quake groups are neither entirely autonomous (as they mobilise to the political agenda of disaster lessons) nor enslaved (post-quake groups choose how to practice disaster lessons and have often done so in ways that further the groups purpose) (Sawicki, 1991).

This thesis had two aims. The first was to investigate the construction of disaster lessons by emergent groups, and the second was to understand how disaster lessons have come to dominate some aspects of the post-disaster period in Canterbury. This thesis has come to an understanding of how emergent groups construct disaster lessons through specific discourses that have presented a particular truth about learning lessons from disasters that has been presented through the histories of disasters as an objective feature that occurs naturally. The societal expectations of disaster lessons that is laid down today by state disaster management influences emergent groups to conform to this practice through neoliberal governmentality. Disaster lessons have become entwined with neoliberal rationalities that are realised through technologies of power which is concerned with the conduct of conduct which informs emergent groups behaviour. Emergent groups engagement with governmental techniques (technologies) have worked to produce disaster lessons. Technologies have worked to shape the conduct of emergent groups to produce disaster lessons which is in accordance with neoliberal governmentality. Emergent groups have constructed disaster lessons through discursive practices and have framed them as organisational learning, challenges and failings “lessons”. Emergent groups as active and free citizens have taken responsibility by generating disaster lessons and as they have done this they have fulfilled political objectives around disaster management.

The thesis has also come to an understanding of how disaster lessons have come to dominate the post-disaster period in Canterbury. Systems of thought and minor practices have rendered disaster lessons to become a state disaster management intervention. Disaster lessons have been constructed and replicated through historical systems of thoughts and practices that have regulated the post-disaster activity.

Disaster lessons have been constructed through religion, science and judiciary disaster management which have all worked to construct this discourse and make it thinkable and doable. A particular truth has been constructed about disaster management through the histories of disasters and this has been replicated throughout history which has shaped the practice and its dominance today. Documenting and identifying disaster lessons today is a practice that is taken for granted, it is normalised as a post-disaster activity which constitutes its dominance.

## *Conclusion*

This chapter suggests that disaster lessons are a prevailing mode of governance. Disaster lessons are presented as an unavoidable “truth” that regulates what can be said and done. Post-quake groups self-regulate to practice disaster lessons, which shows that neoliberal governmentality is at work. A critique of governmentality is its lack of accommodation of a potential for individual agency or autonomy, and it was evident in the findings that post-quake groups displayed a sense of agency and autonomy. However, my reading of Foucault’s work and interpretations thereof by other authors, suggest that using Foucault’s perspective does allow for accounts of agency and a sense of autonomy, with people being able to exercise choice with respect to dominant discourses.

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## 7. *Conclusion*

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### *Introduction*

This thesis has produced a counter-narrative of disaster lessons as a form of neoliberal governmentality. The lessons of emergent post-earthquake groups in Canterbury are used as a case study to demonstrate how neoliberal governmentality is at work. The aim of this concluding chapter is to restate the key parts of this research as well as to reflect on it as a whole.

This chapter will follow with a reiteration of the human narrative of disasters, this will then move on to a reiteration of the aims of this thesis along with the methods used to achieve this. The genealogy of disaster lessons will be discussed; this will then be followed by a discussion on disasters lessons as a form of neoliberal governmentality. Lastly, research implications and areas where the research could be furthered are discussed.

### *The human narrative of disasters*

This thesis has highlighted the human narrative of disasters through emergent groups and disaster lessons. This was done by generating an account of emergent groups and disaster lessons through the literature, by presenting a genealogy of disaster lessons and by reporting the accounts of disaster lessons by participants in emergent groups in Canterbury.

Emergent behaviour and groups have been observed throughout history with observations going back to antiquity and ancient civilisations. Historical examples of emergent behaviour include ancient Roman slaves forming the first fire service called the Corps of Vigile in 6 A.D. Another example of emergent behaviour involved the Red Cross who originally developed in 1859 to aid the wounded after a battle in



Solferino, Italy (Orloff, 2011). Today emergent group behaviour is still observed and the Canterbury earthquakes are an example of this with various emergent groups appearing to aide in the response and recovery and this being documented.

People and societies throughout history have tried to manage disasters. The genealogy highlighted this with early depictions of disaster lessons in caves from ancient dwellers sharing lessons on how disasters were dealt with (Haddow, Bullock, Coppola, 2011). There are also historical accounts of ancient Egyptians in the twentieth century B.C. and ancient Romans in 64 C.E all recording and sharing their attempts of disaster management (Kte'pi, 2011; Quarantelli, 2000). Today, disasters lessons are a common practice of state disaster management. It was also a practice that was engaged in by emergent groups in Canterbury. Participants involved in this research narrate the disaster related experiences, discoveries and ideas of emergent groups, which were framed to present organisational learning as successes, challenges and failings “lessons”.

## *Research aims and methodology*

This thesis had two aims. The first was to investigate the construction of disaster lessons by emergent groups, and the second was to understand how disaster lessons have come to dominate some aspects of the post-disaster period in Canterbury. A qualitative research approach was taken to achieve these aims. This was because qualitative research can be used to discover in depth explanations of topics and was suitable for capturing complex and diverse narratives and understandings of disaster lessons.

A social constructionist perspective was used to understand and explore the ways emergent groups constructed disaster lessons. A Foucauldian approach was then employed as an analytical tool to examine the construction of disaster lessons and how it influences ways of thinking and doing that are associated with the post-disaster period. This was achieved through Foucault’s genealogical method, which was used to explore the way disaster lessons have been constituted throughout history. Foucault’s governmentality was then utilised to conceptualise disaster lessons as a

form of neoliberal governmentality.

Fourteen participants from eight post-quake groups were interviewed for this research. Documentary data was also gathered to compliment the participants' interviews. Once data was collected, a systematic coding process began and memos were also written.

## *Findings as genealogy*

A genealogy of disaster lessons was presented. The genealogy traced how the practice of disaster lessons has been constituted through various systems of thought. These system of thoughts include religion, nature/science and state disaster management. Disaster lessons have been constructed and regulated through these systems of thinking which have shaped the practice of disasters lessons and its prevalence today.

The findings constitute the present day practice of disaster lessons. The findings are structured to present a trajectory of post-quake groups. The findings also highlight the way post-quake groups understand disaster lessons, which were in ways that framed organisational learning as successes, challenges and failings. The trajectory was made up of three core themes. The first theme, *the development of post-quake groups* focused on the emergence of these groups and the initial lessons learned by these groups as they began to immerse themselves into the response and recovery of the earthquakes.

The second theme, *becoming established, challenges and lessons*, centred on the development of emergent groups as they progressed through the earthquake response and recovery. Groups became more formalised as lessons were learnt through the groups' engagement with bureaucracy and funding. Also, lessons in leadership, trust, work management and self-regulation were learnt. These lessons often led to developments in the groups' structure and/or activities. The last theme, *communicating disaster lessons* involved participants accounts of disaster lessons being communicated and shared beyond the groups themselves, often through state disaster management practices.

These two chapters presented the historical construction and present day practice of disaster lessons and through this it became apparent that Foucault's governmentality could be used to theorise and make sense of the data and the practice of disaster lessons and its prevalence in the post-disaster period.

## *Theoretical contribution and discussion*

This thesis adds to existing sociological knowledge. It also adds to the field of disaster research, particularly in relation to studies on emergent groups and disaster lessons. The discussion chapter drew on the concept of Foucault's governmentality to make sense of the disaster lessons of emergent groups. Foucault's theory had explanatory power. Neoliberal governmentality explained the dominance of disaster lessons as a post-disaster activity which helped illustrate why and how these emergent groups engage and are shaped by disaster lessons.

The discussion conceptualised disaster lessons to be a form of neoliberal governmentality, a governing rationale that shapes and guides emergent groups conduct. Technologies of government help render this governing rational. Specific technologies such as post-disaster after action reports were engaged in by emergent groups. These technologies are imbued with guiding the behaviour of the population towards particular goals.

In the discussion, the concept of disaster lessons was problematised. The practice and effectiveness of learning disaster lessons was critiqued. Literature was drawn on that critiqued the practice of disaster lessons, which correlated with some of the participants' data. This presented an alternative discourse, that counterpoints mainstream or dominant understandings of disaster lessons which function as a practice of disaster management.

The discussion also drew on agency and autonomy as a form of resistance to ways of governing. Agency and autonomy are used as a form of critique against some of Foucault's work, however, Foucault's later work does incorporate forms of agency. The concept of agency and autonomy were important to understanding some of the

participants' findings and emergent groups themselves, as they are associated with these concepts.

## *Research limitations*

This thesis inevitably comes with limitations, including how generalisable this research is, the practical limitations of a Master's research project, a lack of clear Foucauldian analytical methods and potential biases.

This thesis provided a detailed account of the disaster lessons of emergent groups. Insight into the disaster lessons of emergent groups is a reconstruction of subjective experiences of participants within the Canterbury earthquakes (Mayring, 2007). The research is specific in that it is focused on emergent groups in the context of the Canterbury earthquakes. Therefore, this research cannot claim generalisability to other populations but some information such as the disaster experience of emergent groups and the lessons they learned may be more generally relevant to other groups and organisations. Qualitative research approaches can be made generalisable but these are different to those aimed in quantitative research (Braun & Clarke 2013). However, qualitative research can uniquely produce naturalistic, transferable and theoretical generalisations (Smith, 2018). This thesis produces naturalistic accounts of emergent groups disaster lessons. Readers can make associations to elements of this research; some of the findings are transferable and can provide insight into the disaster lessons of emergent groups along with how disaster lessons dominate as a post-disaster activity. It also provides theoretical insight into disaster lesson as a form of neoliberal governmentality.

There are practical limitations that come with a Masters research project. There is a limit of both, time and resources which has influenced the research and the scope. A possible wider study into disaster lessons could have been produced that went beyond emergent groups to established community groups including non-government organisations (NGOs), and to governmental agencies that also contributed to the response and recovery and engaged in disaster lesson practices. The specific lessons of community groups (such as NGOs) and government agencies could have

broadened the specific lessons that each organisation learned and the specific practices that were engaged in. A broadened examination of how disaster lessons as a governing rationale comes to regulate and shape these organisations and agencies could have been investigated. Comparisons across the different groups and organisations was not possible because of time and resource constraints of a Master project. However, the research findings do fill a research gap and give insight into the genealogy of disaster lessons, the specific lessons of emergent groups along with showcasing disaster lessons as a governing rationale through emergent groups disaster lessons and their engagement in governing techniques.

In the methodology section, it was mentioned briefly that Foucault offers no clear steps into his analytical methods, which is potentially limiting. Joseph (2013a) suggested that Foucault's work is deliberately set out this way. His work is an "evolving and unfinished product" (p.41). As a result, in addition to Foucault's work, the work of other authors who employ a Foucauldian perspective including works from Gutting (1994); Joseph (2013a; 2013b) and Rose (1999) were drawn on to better understand Foucault's analytical approach and his notion of governmentality. An effort was made to overcome the lack of clear direction for analytical methods offered by Foucault, by referring to other resources, to interpret and apply a Foucauldian analysis to this research.

It is not possible to completely restrain values and subjectivities of the researcher (Bryman, 2015). In this qualitative study, semi-structured interviews and the interpretation of the data through the analysis was a process of co-construction. A shared subjectivity was created by the participants and myself, as knowledge was generated in the interview, which was then reinterpreted in the analysis. I endeavoured in this research to ensure robustness and did this by challenging the assumptions I have as a researcher and by being constantly reflexive about assumptions I had, as well as the influence I had on the analysis and the results of this research. I was constantly asking questions that contradicted assumptions and ideas were also exposed in supervision.

## *Potential further research*

This thesis focused on the disaster lessons of emergent groups in Canterbury and as a result the findings are specific. Further research to extend the focus of this research to other community groups and government agencies that assisted in the response and recovery and participated in disaster lesson practices. A study of comparison, across these groups, agencies and organisations could also be undertaken to widen the study. A comparison study of the range of disaster lessons could be undertaken or the ways in, which these groups and organisations regulate themselves or are governed to produce disaster lessons could be examined.

Research into the ways the disaster lessons of the Canterbury earthquakes were utilised in the 2016 Kaikoura, New Zealand earthquake could be investigated. A comparison study of the disaster lessons of emergent groups learnt from the Canterbury and Kaikoura earthquakes could be examined. Further research into the resistance of governing in the disaster context through agency and autonomy could also be examined.

## *Conclusion*

This concluding chapter presented an overview of the thesis. Using a Foucauldian genealogical method helps explain how disaster lessons have persisted over the ages to the post-disaster period in Canterbury. The genealogical method showed how disaster lessons have been constituted by a series of authoritative systems of thinking including religion, science and state disaster management. Religion in Western society regulated disaster lessons through constructions of morality. Science transcended through the age of enlightenment and disaster lessons were constituted through enlightenment ideals and understandings. State disaster management is concerned with governance, human action and decision making in an effort to reduce the damage of disasters. State disaster management systems regulate disaster lessons and the practice of documenting and identifying disaster lessons today. All these systems have regulated and justified disaster lessons and its practice.

Neoliberal governmentality had explanatory power to make sense of emergent groups' construction of disaster lessons and the prevalence of this practice in the post-disaster period. Neoliberal governmentality is concerned with the conduct of subjects and was used to explain the conduct of emergent groups as they engaged in disaster lessons. Neoliberal governmentality has shown how modern state and autonomous individuals have co-determined each other. Disaster lessons discourse as neoliberal governmentality shapes and guides the conduct of emergent groups but at the same time these groups are autonomous and free subjects that engage in technologies of power that are designed to shape and control behaviour while simultaneously reinforcing disaster lessons as a dominant discourse (Gordon, 1991). Disaster lessons and its practice survives as a contemporary practice of disaster management as an array of technologies, strategies and a particular truth about disaster lessons and its role in managing disasters has been regulated and upheld even though disaster lessons do not appear to be absorbed and are repeated as presented in the literature.

The thesis has built upon existing research to add to the field of sociology and disaster research and in particular emergent groups and disaster lessons. It is hoped that this research will be useful to further the research topic of disaster lessons and that the theoretical positions used in this research can be built upon.

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# *Appendix*

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## *Consent form*

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**This research project seeks to explore lessons learned from community groups that developed spontaneously following the Canterbury earthquake sequence (4 Sept 2010 - 22 February 2011).**

I have read and understand the description of this project about lessons learned from emergent community groups that developed spontaneously following the Canterbury earthquakes (4 Sept 2010 - 22 February 2011). I have had the opportunity to raise questions or concerns about this research and my involvement and I am satisfied with the answers given. I understand that it is my choice to take part in this research and I may withdraw at anytime up until the data is analysed. I understand that the information I provided in the interview can be withdrawn up until the point where the data is analysed.

I understand that the data collected for this research will be kept secured in electronic form in password protected documents that are stored in a protected file and will be erased 5 years after the completion of the MA as standard university procedure.

On the basis of the above I agree to participate.



I understand that the researcher Minique Butters can be contacted on mobile 0xx  
xxxxxxx or by email: [minique.butters@pg.canterbury.ac.nz](mailto:minique.butters@pg.canterbury.ac.nz). Research supervisors  
Ruth McManus and Kate van Heugten can be contacted at  
[ruth.mcmanus@canterbury.ac.nz](mailto:ruth.mcmanus@canterbury.ac.nz) and [kate.vanheugten@canterbury.ac.nz](mailto:kate.vanheugten@canterbury.ac.nz) for further  
information. If I have any concerns, the University of Canterbury Human Ethics  
Committee can be contacted at [humanethics@canterbury.ac.nz](mailto:humanethics@canterbury.ac.nz).

Do you want the transcript returned? Yes \_\_\_\_\_  
No \_\_\_\_\_

Do you want a summary of the research findings? Yes \_\_\_\_\_  
No \_\_\_\_\_

Email address: \_\_\_\_\_

I agree to participate in this research project.

Sign name \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/2016 \_\_\_\_\_

Signature \_\_\_\_\_

## *Information sheet*



Department of Sociology and Anthropology

Mobile: + 027 xxx xxxx

Email: [minique.butters@pg.canterbury.ac.nz](mailto:minique.butters@pg.canterbury.ac.nz)

**This research project seeks to explore lessons learned from community groups that developed spontaneously following the Canterbury earthquake sequence (4 Sept 2010 - 22 February 2011).**

**Information Sheet for \_\_\_\_\_**

You are invited to participate in a study about lessons learned from community groups that developed spontaneously following the Canterbury earthquake sequence (4 Sept 2010 - 22 February 2011). Please read the information below and take time deciding whether you would like to participate in this research. You have the right not to participate or to withdraw from the study.

**What is the project about:** The Canterbury earthquake sequence (4 Sept 2010 - 22 February 2011) highlights the action of emergent behaviour with the development of spontaneous community groups who contributed to response efforts, ongoing recovery efforts, repairs, supporting residents in earthquake-affected neighbourhoods and recovery processes, distributing resources and rejuvenating the city with art and

greenery projects. Although research has been undertaken with more established organisations, much remains to be learnt from spontaneously emerging response groups. The research will add to current literature, generate new knowledge and lessons learned can potentially be passed on.

This research project is a requirement for Master of Arts (MA) in Sociology at Canterbury University by Minique Butters under the supervision of Ruth McManus and Kate van Heugten who can be contacted at [ruth.mcmanus@canterbury.ac.nz](mailto:ruth.mcmanus@canterbury.ac.nz) and [kate.vanheugten@canterbury.ac.nz](mailto:kate.vanheugten@canterbury.ac.nz). Ruth and Kate are happy to answer any concerns you may have about participating in this study.

**Participation:** This project seeks to interview you face to face about your experiences and lessons learned from the post-quake group you are involved in. Participants will be guided to reflect back on their experiences. Interviews will take between 40-60 minutes. The interviews will be conducted in a public place that is convenient for the participant involved or in a booked room at Canterbury University. The project will involve audio recording the interview to get an accurate account of the interview. The recorded interview will be transcribed and data will be used for the research report. Recordings will be held securely for 5 years after the completion of the MA as standard university procedure.

No participant or community group will be named in this research and data gathered will be confidential. Data can only be accessed by me and the research supervisors Ruth McManus and Kate van Heugten. Data will be sorted and separated; each participant will be assigned a code for their consent form and transcript. The data will be de-identified and consent forms will be kept separately from the data collected. The data will be kept in a password protected file on a computer that is password protected.

**Transcript:** If you would like a copy of your interview transcript, let me know on the consent form and this will be emailed to you. If you want any changes made to the transcript, let me know and the amendment will be made.

Participants have the right to withdraw from this research, just let me know. If you choose to withdraw you may choose to withdraw information from the interview and this can be done up until the point where the data is analysed.

If participation in this research causes distress, there are a range of support services available. The Quake Support and Counselling Services Helpline 0800 777 846 or Lifeline, a 24 Hour Telephone Counselling service 0800 543 354 can offer support, information and advice.

If you have any queries please do not hesitate to make contact. See

Minique Butters

Contact details:

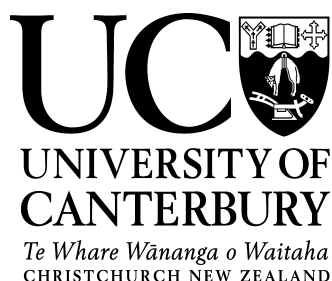
Email: [minique.butters@pg.canterbury.ac.nz](mailto:minique.butters@pg.canterbury.ac.nz)

Mobile: 027 xxx xxxx

The University of Canterbury Human Ethics Committee have approved this project. If participants have any concerns, the Human Ethics Committee can be contacted [human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz).

## *CEISMIC consent form*

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### **Canterbury QuakeStudies Project**

You are invited to contribute content to the QuakeStudies Digital  
Archive as part of the following project:

**Project Title: Post-disaster community groups: Lessons learned**

**Researcher Name: Minique Butters**

**Researcher Contact Details: Email:**

**minique.butters@pg.canterbury.ac.nz**

**Mobile: 027 xxx xxx**

**UC CEISMIC Digital Archive Contact Details:** If you need to contact us  
about content on our website, you can email [ceismic@canterbury.ac.nz](mailto:ceismic@canterbury.ac.nz)

**Project Description:**

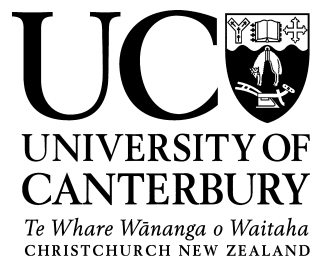
**What is the project about:** *The Canterbury earthquake sequence (4 Sept 2010 - 22 February 2011) highlights the action of emergent behaviour with the development of spontaneous community groups who contributed to response efforts, ongoing recovery*

*efforts, repairs, supporting residents in earthquake-affected neighbourhoods and recovery processes, distributing resources and rejuvenating the city with art and greenery projects. Although research has been undertaken with more established organisations, much remains to be learnt from spontaneously emerging response groups. The research will add to current literature, generate new knowledge and lessons learned can potentially be passed on.*

***Participation:*** *This project seeks to interview participants face to face about their experiences, challenges and lessons they have learnt from their involvement in post-disaster community groups. The project will involve audio recording the interview. The recorded interviews will then be transcribed and data will be used for the research report.*

If you are interested in making your contribution more publicly available, then you may also consent to have it stored in the UC CEISMIC QuakeStudies Digital Archive <https://quakestudies.canterbury.ac.nz>, and made available through the UC CEISMIC Federated Archive [www.ceismic.org.nz](http://www.ceismic.org.nz) and Digital NZ [www.digitalnz.org](http://www.digitalnz.org). The consent form provided allows you to choose the level of access you would like for your content.

**PROJECT TITLE: Post-disaster community groups: Lessons learned**



**QUAKESTUDIES CONSENT FORM**

I have read and understood the description of the above-named project. I agree to participate in the project, and I consent to publication of research results arising from it. I also understand that I may choose to provide the following information (my “content”) for use within the QuakeStudies Digital Archive:

- Transcript

I will specify how this content may be used below. I understand that, should I wish, I may change these conditions of use, or withdraw from the project without penalty, by contacting **ceismic@canterbury.ac.nz**. I also understand that if I choose to make my content publicly available through the UC CEISMIC QuakeStudies Digital Archive, UC CEISMIC website and Digital New Zealand, then I can choose to remove it from those archives but neither the University of Canterbury nor I will retain control over any copies created or published elsewhere on the Internet.

**Transcript-** The identity of participants and post-quake community groups will remain anonymous. Details that identify the participant and/or the post-quake group will be removed from the transcript.

Please read the levels of use below and choose the level of use you are comfortable with.

☐ **LEVEL 1**

My content can be used for research and analysis only by researchers approved by the UC CEISMIC Programme. It will not be publicly available on the QuakeStudies archive website.

- Transcript (All identifiable details will be removed).

□ **LEVEL 2 (IN ADDITION TO LEVEL 1)**

Excerpts of my content can be accessed by researchers approved by the UC CEISMIC Programme and be used in teaching, public lectures or presentations, or presented to participants in future research studies.

- Transcript (All identifiable details will be removed).

□ **LEVEL 3 (IN ADDITION TO LEVELS 1 AND 2)**

My content can be made publicly available on the UC CEISMIC QuakeStudies archive, the UC CEISMIC website and Digital NZ website.

- Transcript (All identifiable details will be removed).

*The project has been reviewed and approved by the University of Canterbury Human Ethics Committee and University of Canterbury Educational Research Human Ethics Committee.*



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# References

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- Alexander, D. (2012). Disasters: Lessons learned? *Journal of Geography and Natural Disasters*, 2(1), (pp.1). DOI:10.4172/2167-0587.1000e102.
- Alvesson, M., & Deetz, S. (1996). Critical Theory and Postmodernism Approaches to Organization Studies. In S. R., Clegg., C Hardy & W. R. Nord (Eds.), *Handbook of Organization Studies*. SAGE, London.
- Alvesson, M., & Kärreman, D. (2000). Varieties of discourse: On the study of organizations through discourse analysis. *Human Relations*, 53(9). DOI: 10.1177/0018726700539002.
- Anais, S. (2013). Genealogy and critical discourse analysis in conversation: texts, discourse, critique. *Critical Discourse Studies*, 10(2). DOI: 10.1080/17405904.2012.744321.
- Andrews, T. (2012). What is Social Constructionism? Grounded Theory Review. *An international journal*, 11(1).
- Aragón-Durand, F. J. (2009). *Unpacking the social construction of natural disaster through policy discourses and institutional responses in Mexico: The case of Chaloco Valley's floods, State of Mexico*, (pp.63). The Bartlett University College London.
- Argyris, C. (1976). Errata: Single-Loop and Double-Loop Models in Research on Decision Making. *Administrative Science Quarterly*, 21(4). DOI: 10.2307/2391727.
- Argyris, C., & Schon, D. (1996). Organizational learning II: Theory, method and practice, 2. Addison Wesley.
- Arribas-Ayllon, M., & Walkerdine, W. (2008). Foucauldian discourse analysis. In C. Willig & W. Stainton-Rogers (Eds.), *The Sage handbook of qualitative research in psychology* (pp.91-108). SAGE, London.

- Auf der Heide, E. (1989). *Disaster response: Principles and preparation and coordination*. St. Louis, MO: The CV Mosby Company.
- Beck, U. (1992). *Risk Society. Towards a New Modernity*. SAGE, London.
- Beck, U. (1998). *The World Risk Society*. Cambridge: Polity Press.
- Beck, U., & Holzer, B. (2007). Organization in World Risk Society. In C. Pearson., C Roux-Dufort & J. Clair (Eds.), *The International Handbook of Organizational Crisis Management*, (pp.3- 24). SAGE, London.
- Berger, P. L., & Luckmann, T. (1966). *The Social Construction of Reality*. Random House.
- Bevir, M. (1999). Foucault and critique: Deploying agency against autonomy. *Political theory*, 27(1), (pp.65-67).
- Bevir, M. (2008). What is Genealogy? *Journal of the Philosophy of History*, 2.
- Birkland, T. A. (2006). *Lessons of Disaster*, Georgetown. University Press, Washington, DC.
- Birkland, T. A. (2009). Disasters, Lessons Learned, and Fantasy Documents. *Journal of Contingencies and Crisis Management*, 17(3). DOI:10.1111/j.1468-5973.2009.00575.x.
- Boin, A., & Hart, P. (2003). Public Leadership in Times of Crisis: Mission Impossible? *Public Administration Review*, 63(5). DOI: 10.1111/1540-6210.00318.
- Boje, D. M. (1994). Organizational Storytelling: *The Struggles of Pre-modern, Modern and Postmodern Organizational Learning Discourses*, 25(3), (pp.517). DOI:10.1177/135050769402500304.
- Bolin, R., & Stanford, L. (1998). *The Northridge Earthquake: vulnerability and disaster*. Routledge, London.

- Braun, V., & Clarke, V. (2006). *Using thematic analysis in psychology: Qualitative Research in Psychology*, 3(7), (pp.9). Taylor & Francis Group.
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: a practical guide for beginners*. SAGE, London.
- Brouillette, J. R., & Quarantelli, E. L. (1971). Types of patterned variation in bureaucratic adaptations to organizational stress. *Sociological Inquiry*, 41(1). DOI: 10.1111/j.1475-682X.1971.tb01198.x.
- Bryman, A. (2004). *Social research methods*, (2nd ed). Oxford University Press.
- Bryman, A. (2015). *Social Research Methods*. (5<sup>th</sup> ed). Oxford University Press.
- Burr, V. (1995). *An introduction to social constructionism*. Routledge.
- Burr, V. (2015). *Social constructionism*, 3, (pp.27- 63). Routledge. Hove, East Sussex; New York, NY.
- Busenberg, G. J. (2001). Learning in organizations and public policy. *Journal of Public Policy*, 21(2). DOI:10.1017/S0143814X0100109X.
- Campbell, D. (2010). Stand by Me: Organization Founding in the Aftermath of Disaster. *The American Review of Public Administration*, 40(3). SAGE.
- Cholewa, V., & Mamula-Seadon, L. (2012). Community Resilience: case studies from the Canterbury earthquakes. Tephra. Wellington, Ministry of Civil Defence & Emergency Management.
- Clegg, S. R. (1994). Max Weber and contemporary sociology of organizations. In L. Ray (Ed.), *Organizing Modernity: New Weberian Perspectives on Work, Organization and Society*. Taylor and Francis.
- Clifford, N. J., French, S., & Valentine, G. (2010). *Key methods in geography*, (2). SAGE, London.

- Comfort, L. K., & Okada, A. (2013). Emergent Leadership in Extreme Events: A Knowledge Commons for Sustainable Communities. *International Review of Public Administration*, 18. DOI: 10.1080/12294659.2013.10805240.
- Coppola, D. P. (2007). *Introduction to International Disaster Management*. Butterworth Heinemann.
- Coppola, D. P. (2011). *Introduction to International Disaster Management*, (2<sup>nd</sup> ed). Butterworth Heinemann.
- Corbacioglu, S., & Kapucu, N. (2006). Organisational Learning and Self adaptation in *Dynamic Disaster Environments*, 30(2).
- Cotoi, C. (2011). Neoliberalism: A Foucauldian Perspective. *International Review of Social Research*, 1(2). DOI: 10.1515/irsr-2011-0014.
- Courpasson, D., & Reed, M. (2004). Introduction: Bureaucracy in the Age of Enterprise. *Organization*, 11(1).
- Cromby, J., & Willis, M. E. (2014). Nudging into subjectification: Governmentality and psychometrics. *Critical Social Policy*, 34(2), (pp.3).
- Demiroz, F., & Kapucu, N. (2012). The role of leadership in managing emergencies and disasters. *European Journal of Economic and Political Studies*, 5(1).
- Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The Discipline and Practice of Qualitative Research. *The Sage handbook of qualitative research*. Thousand Oaks: SAGE.
- Denzin, N. K., & Lincoln, Y. S. (2011). Introduction: The Discipline and Practice of Qualitative Research. *The SAGE handbook of qualitative research*. Thousand Oaks: SAGE.
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), (pp.314-321). DOI:10.1111/j.1365-2929.2006.02418.x.

- Donahue, A., & Tuohy, R. (2006). Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them. *Homeland Security Affairs*, 2(2), (pp.3).
- Drabek, T. E. (1970). Methodology of Studying Disasters: Past Patterns and Future Possibilities. *American Behavioral Scientist*, 13(3).
- Drabek, T. E. (1986). Human system responses to disaster: an inventory of sociological findings. *Springer series on environmental management*. Springer-Verlag.
- Drabek, T. E., & McEntire, D. A. (2003). Emergent phenomena and the sociology of disaster: Lessons, trends and opportunities from the research literature. *Disaster Prevention and Management*, 12. DOI:10.1108/09653560310474214.
- Dreyfus, H. L., & Rabinow, P. (1982). *Michel Foucault: beyond structuralism and hermeneutics*. Harvester Press.
- Duarte, J. C., & Schellart, W. P. (2016). Introduction to plate boundaries and natural hazards. *Plate Boundaries and Natural Hazard*, (pp.2) John Wiley & Sons, Inc., Hoboken, New Jersey.
- Dunkle, I. D. (2010). Foucauldian Genealogy as Situated Critique or Why is Sexuality So Dangerous? Thesis, Georgia State University.
- Dynes, R. R. (1970). *Organized behavior in disaster*. Lexington, MA: Heath Lexington Books.
- Dynes, R. R. (2003). Noah and Disaster Planning: The Cultural Significance of the Flood Story. *Journal of contingencies and crisis management*, 11(4). DOI: 10.1111/j.0966-0879.2003.01104003.x.
- Dynes, R. R., & Drabek, T. E. (1994). The structure of disaster research: Its policy and disciplinary implications. *International Journal of Mass Emergencies and Disasters*, 12(1).

- Dynes, R. R., & Quarantelli, E. L. (1968). Group Behavior Under Stress: A Required Convergence of Organizational and Collective Behavior Perspectives. *Sociology and Social Research*.
- Easterby-Smith, M., & Lyles, M. A. (2011). *Handbook of organizational learning and knowledge management*. (2nd ed). Wiley.
- Fadyl, J. K., Nicholls, D. A., & McPherson, K. M. (2013). Interrogating discourse: The application of Foucault's methodological discussion to specific inquiry. *Health: an interdisciplinary journal for the social study of health, illness and medicine*, 17(5), (pp.3). DOI:10.1177/1363459312464073.
- Featherstone, A. (2014). *Learning from disaster: how governments gain insight and how regional and international bodies can help*. ALNAP Study. London: ALNAP/ODI.
- Fernandes, J. W. (1991). Introduction: Confluents of inquiry. Beyond metaphor. *The theory of tropes in Anthropology*. Stanford California: Stanford University Press.
- Fleming, H. (2015, December 19). *The Space of Discomfort*. CanCERN newsletter, (para.1). Retrieved from <http://www.cancern.org.nz>
- Floristella, A. P. (2016). Dealing with natural disasters: Risk society and ASEAN: a new approach to disaster management. *The Pacific Review*, 29(2). DOI: 10.1080/09512748.2015.1013498.
- Forrest, T. (1979). Hurricane Betsy, 1965: A Selected Analysis of Organizational Response in the New Orleans Area. Historical and Comparative Disaster. Newark, DE.: Disaster Research Center, University of Delaware.
- Foucault, M. (1977). *Discipline and punish: the birth of the prison*. Pantheon Books, New York.
- Foucault, M. (1978 –1979). Foucault on Governmentality and Liberalism: The Birth of Biopolitics: Lectures at the Collège de France, 1978 –1979, trans. Graham Burchell Basingstoke: Palgrave Macmillan.

- Foucault, M. (1979). On governmentality. *Ideology and Consciousness*, 6.
- Foucault, M. (1988). *The history of sexuality*. Vintage Books.
- Foucault, M. (1991). Governmentality. In G. Burchell., C. Gordon & P. Miller (Eds.), *The Foucault Effect: Studies in Governmentality*. London: Harvester Wheatsheaf.
- Foucault, M. (1994). On the Genealogy of Ethics. In P. Rabinow (Ed.), *Ethics: Subjectivity, and Truth: Essential Works of Foucault 1954–1984*, 1. New York: The New Press, (pp.253–80).
- Foucault, M. (1997). *Ethics: Subjectivity and Truth. Essential Works of Michel Foucault, 1954–1984*, 1. New York: New Press
- Foucault, M. (1998). *The History of Sexuality: The Will to Knowledge*, (pp.63). London, Penguin.
- Foucault, M. (2000). The political technology of individuals. In J. D. Faubion (Ed.), *Power. Essential Works of Michel Foucault*, 3. New York: The New Press.
- Foucault, M., Senellart, M., Ewald, F., & Fontana, A. (2009). Security, territory, population: Lectures at the Collège de France, 1977-1978. Picador/Palgrave Macmillan, New York.
- Furedi, F. (2007). The changing meaning of disaster. *Area*, 39(4).
- Galbin, A. (2014). An introduction to social constructionism. *Social Research Reports*, 26(26).
- Gane, M. (2008). Foucault on Governmentality and Liberalism. *Theory, Culture & Society*, 25(7-8).
- Gardner, R. O. (2013). The Emergent Organization: Improvisation and Order in Gulf Coast Disaster Relief: The Emergent Organization. *Symbolic Interaction*, 36(3). DOI: 10.1002/symb.70.

- Garland, D. (1997). Governmentality and the Problem of Crime: Foucault, Criminology. *Theoretical Criminology*, 1(2). DOI: 10.1177/1362480697001002002.
- Garland, D. (2014). What is a “history of the present”? On Foucault's genealogies and their critical preconditions. *Punishment & Society*, 16(4). DOI: 10.1177/1462474514541711.
- Gates, C. (2015, July 25). *Popular Christchurch Dance-O-Mat could travel the world*, (para. 2; 4). Stuff. Retrieved from <http://www.stuff.co.nz/the-press/news/70440019/popular-christchurch-danceomat-could-travel-the-world/>
- Gherardi, S., & Nicolini, D. (2001). The sociological foundations of organizational learning. In M. Dierkes., A. B. Antal., J. Child & I. Nonaka (Eds.), *Handbook of organizational learning and knowledge*, (pp. 35-60). Oxford, UK: Oxford University Press.
- Gherardi, S., Nicolini, D., & Odella, F. (1998). Toward a social understanding of how people learn in organizations: The notion of situated curriculum. *Management Learning*, 29(3). DOI: 10.1177/1350507698293002.
- Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6), (pp. 291 – 295). DOI: 10.1038/bdj.2008.192.
- Glantz, M. H., & Kelman, I. (2013). Thoughts on dealing with climate change...as if the future matters. *International Journal of Disaster Risk Science*. DOI: 10.1007/s13753-013-0002-1.
- Gordon, C. (1991). Governmental rationale: an introduction. In G. Burchell., C. Gordon & P. Miller (Eds.), *The Foucault effect. Studies in governmentality with two lectures by and an interview with Michel Foucault*. University of Chicago Press.
- Graham, L. J. (2011). The Product of Text and “Other” Statements: Discourse analysis and the critical use of Foucault. *Educational Philosophy and Theory*, 43(6). DOI: 10.1111/j.1469-5812.2010.00698.x.



- Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage
- Gutting, G. (1994). *The Cambridge Companion to Foucault*, (2<sup>nd</sup> ed). Cambridge University Press.
- Haddow, G. D., Bullock, J. A., & Coppola, D. P. (2011). *Introduction to emergency management*, (4th ed). Butterworth Heinemann.
- Hahn, C. (2008). Level 1 Coding. Doing qualitative research using your computer: a practical guide. SAGE.
- Hall, S. (2001). Foucault: power, knowledge and discourse. In M. Wetherell., S. Taylor & S. J. Yates (Eds.), *Discourse Theory and Practice*. SAGE, London.
- Hamann, T. H. (2009). Neoliberalism, Governmentality, and Ethics. *Foucault Studies*, (pp. 2). DOI: 10.22439/fs.v0i0.2471.
- Hancock, B., Windridge, K., & Ockleford, E. (2007). *An Introduction to Qualitative Research*. Department of Health Sciences. University of Leicester.
- Handel, M. J. (2003). *The sociology of organizations: classic, contemporary, and critical readings*. SAGE.
- Hannah, S. T., Uhl-Bien, M., Avolio, B. J., & Cavarretta, F. L. (2009). A framework for examining leadership in extreme contexts. *The Leadership Quarterly*, 20(6).
- Hasegawa, K. (2012). Facing Nuclear Risks: Lessons from the Fukushima Nuclear Disaster. *International Journal of Japanese Sociology*, 21. DOI: 10.1111/j.1475-6781.2012.01164.x.
- Hinton, A. L., LaPointe, T., & Irvin-Erickson, D. (2014). Hidden genocides: power, knowledge, memory. Rutgers University Press.
- Holstein, J. A., & Gubrium, J. F. (2008). *Handbook of constructionist research*, (pp.14). Guilford Press.

- Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organizational Science*, 2.
- Hull, M. S. (2012). Documents and Bureaucracy. *Annual Review of Anthropology*, 41.
- Humphrey, A. R. G., Mitchell, J., & McBride, S. K. (2011). Community Resilience and the Christchurch Earthquake: Best Laid Plans or Practise Made Perfect? *Prehospital and Disaster Medicine*, 26, S1.
- Hynes, T., & Prasad, P. (1997). Patterns of “Mock Bureaucracy” in Mining Disasters: An Analysis of the Westray Coal Mine Explosion. *Journal of Management Studies*, 34(4).
- Ibrion, M., Mokhtari, M., & Nadim, F. (2015). Earthquake Disaster Risk Reduction in Iran: Lessons and Lessons Learned from Three Large Earthquake Disasters—Tabas 1978, Rudbar 1990, and Bam.
- Ismail-Zadeh, A. (2014). Extreme seismic events: from basic science to disaster risk mitigation. In A. Ismail-Zadeh., J. U. Fucugauchi., A. Kijko., K. Takeuchi & I. Zaliapin (Eds.), *Extreme Natural Hazards, Disaster Risks and Societal Implications*.
- Jian, G., Schmisser, A. M., & Fairhurst, G. T. (2008). Organizational discourse and communication: The progeny of Proteus. *Discourse and Communication*, 2.
- Johnson, J. (2001). In-depth interviewing. In J. Holstei & J. Gubrium (Eds.), *Handbook of interview research: Context and method*, (pp.103-120.). SAGE, London.
- Johnson, S. (2012). Students vs. The Machine. In V. Cholewa & L. Mamula-Seadon (Eds.), *Community Resilience: case studies from the Canterbury earthquakes*, 23. (pp. 18-22). Retrieved from <http://www.civildefence.govt.nz/assets/Uploads/publications/tephra-november-2012.pdf>
- Joseph, J. (2010). Poverty Reduction and the New Global Governmentality. *Alternatives*, 35.
- Joseph, J. (2013a). Resilience as embedded neoliberalism: a governmentality approach. *Resilience*, 1(1).

- Joseph, J. (2013b). The Limits of Governmentality: Social Theory and the International. *European Journal of International Relations*, 16(2), (pp .41).
- Joseph, J. (2014). The EU in the Horn of Africa: Building Resilience as a Distant Form of Governance. *Journal of Common Market Studies*, 52(2).
- Jumara, J. J. (2005). A case study of the influence of organization theory on organizational change. Kansas City, Missouri.
- Kaliner, J. (2013). When Will We Ever Learn? The After Action Review, Lessons Learned and the Next Steps in Training and Educating the Homeland Security Enterprise for the 21st Century. Naval Postgraduate School thesis.
- Kapucu, N & Montgomery, V. W. (2008). Making Matters Worse: An Anatomy of Leadership Failures in Managing Catastrophic Events. *Administration & Society*, 40(7).
- Kapucu, N., & Van Wart, M. (2008). Making matters worse: An anatomy of leadership failures in managing catastrophic events. *Administration and Society*, 40. SAGE.
- Keeffe, T. O. (2002). Organisational learning: a new perspective. *Journal of European Industrial Training*, 26(2/3/4). DOI.org/10.1108/03090590210422012.
- Keeley, J. F. (1990). Toward a Foucauldian analysis of international regimes. *International Organization*, 44(1). DOI: 10.1017/S0020818300004653.
- Krausmann, E., & Mushtaq, F. (2006). A methodology for learning lessons. Experiences at the European level. In J. Birkmann (Ed.), *Measuring vulnerability to natural hazards*. New Delhi: United Nations University Press.
- Kritzman, L. D. (1988). *Michel Foucault: Politics, philosophy, culture, interview and other writings 1977–1984*, (pp.262). New York & London: Routledge.
- Kreps, G. A. (1983). The organization of disaster response core concepts and processes. *International journal of mass emergencies and disasters*, 1(3).

- Kte'pi, B. (2011). History of Disaster Relief, Ancient World. Encyclopedia of Disaster Relief, 1. DOI: <http://dx.doi.org.ezproxy.canterbury.ac.nz/10.4135/9781412994064.n108>.
- Kulwinder, B. (2006). Strategic approach to disaster management: lessons learned from Hurricane Katrina. *Disaster Prevention and Management: An International Journal*, 15(3). DOI: 10.1108/09653560610669945.
- Kweit, M. G., & Kweit, R. W. (2006). A tale of two disasters. *Publius*, 36(3). DOI: 10.1093/publius/pjj023.
- Lahteenmaki, S., Toivonen, J., & Mattila, M. (2001). Critical Aspects of Organizational Learning Research and Proposals for Its Measurement. *British Journal of Management*, 12(2). DOI: 10.1111/1467-8551.00189.
- Lanzara, G. F. (1983). Ephemeral Organizations in Extreme Environments: Emergence, Strategy, Extinction. *Journal of Management Studies*, 20(1). DOI: 10.1111/j.1467-6486.1983.tb00199.x.
- Lemke, T. (2002). Foucault, Governmentality, and Critique, Rethinking Marxism, 14(3). DOI: 10.1080/089356902101242288.
- Lempert, L. B. (2011). Asking Questions of the Data: Memo Writing in the Grounded Theory Tradition. In A. Bryant & K. Charmaz (Eds.), *The SAGE Handbook of Grounded Theory*. DOI: 10.4135/9781848607941.n12.
- Levitt, B., & March, J. M. (1988). Organizational Learning. *Annual Review of Sociology*, 14(1), (pp.517).
- Luxton, M., & Braedley, S. (2010). Neoliberalism and everyday life. McGill-Queen's University Press.
- Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). A data collectors field guide. *Qualitative Research Methods*.

- Majchrzak, A., Jarvenpaa, S. L., & Hollingshead, A. B. (2007). Coordinating Expertise among Emergent Groups Responding to Disasters. *Organization Science*, 18(1), (pp. 147-161). DOI: 10.1287/orsc.1060.0228.
- Mamula-Seadon, L., & McLean, I. (2015). Response and early recovery following 4 September 2010 and 22 February 2011 Canterbury earthquakes: Societal resilience and the role of governance. *International Journal of Disaster Risk Reduction*, 14. DOI: 10.1016/j.ijdrr.2015.01.005.
- Manyena, S. B., Mavhura, E., Muzenda, C., & Mabaso, E. (2013). Disaster risk reduction legislations: Is there a move from events to processes? *Global Environmental Change*, 23(6). DOI: 10.1016/j.gloenvcha.2013.07.027.
- Mathews, P. (2011, March 26). Christchurch earthquake: act of God? Stuff. Retrieved from <http://www.stuff.co.nz/national/christchurch-earthquake/4813735/Christchurch-earthquake-act-of-God>
- May, T. (2006). *The Philosophy of Foucault*. The Philosophy of Foucault. McGill-Queen's University Press.
- Mayring, P. (2007). On Generalization in Qualitatively Oriented Research. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 8(3).
- McIntosh, M. J., & Morse, J. M. (2015). Situating and Constructing Diversity in Semi-Structured Interviews. *Global Qualitative Nursing Research*, 2. DOI:10.1177/2333393615597674.
- McLean, I., Oughton, D., Ellis, S., Wakelin, B., & Rubin, C. B. (2012). Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake. Retrieved from <https://www.civildefence.govt.nz/assets/Uploads/publications/Review-CDEM-Response-22-February-Christchurch-Earthquake.pdf>
- McManus, R., Johnston, D., & Glavovic, B. (2015). Contested meanings of recovery: a critical exploration of the Canterbury earthquakes—voices from the social sciences.

*Kōtuitui: New Zealand Journal of Social Sciences*, 10(2), (pp.70).

<http://dx.doi.org/10.1080/1177083X.2015.1076863>.

Merriam, S. B. (2009). *Qualitative research: a guide to design and implementation*. San Francisco, Jossey-Bass.

Mileti, D. S., & Darlington J. D. (1997). The role of searching in shaping reactions to earthquake risk information. *Social Problems*, 44(1), (pp.89). DOI: 10.1525/sp.1997.44.1.03x0214f.

Ministry of business innovation and employment. (2017). Lessons learnt from the Canterbury earthquakes. Retrieved from <http://www.mbie.govt.nz/info-services/building-construction/safety-quality/lessons-learnt-from-the-canterbury-earthquakes>

Ministry of Civil Defence New Zealand. (1990). *Civil Defence in New Zealand: A Short History*. Retrieved from <http://www.civildefence.govt.nz/assets/Uploads/publications/Short-History-of-Civil-Defence.pdf>

Neal, D. (1983). Types and Functions of Umbrella Organizations for Local Social Movement Organizations: A Look at Emergent Citizen Groups in Disasters. In M. L. J. Honnold & J. W. Richmond (Eds.), *Sociological Research Symposium XIII*. Department of Sociology, Virginia Commonwealth University.

Neaves, T. T., Wachhaus, A. T., & Royer, G. A. (2017). The social construction of disasters in the United States: A historical and cultural phenomenon. *Journal of Emergency Management*, (3). DOI: 10.5055/jem.2017.0326.

Ngenyam Bang, H. (2016). 30 Years after the Lake Nyos Disaster. What prospects for rehabilitation and reintegration in the region? Disaster management. Social vulnerability. Risk perception and relocation decisions in Cameroon. Book Venture Publishing LLC.

Nthakomwa, M. (2011). Religion and Religious Organizations. *Encyclopedia of Disaster Relief*, 1. DOI:

<http://dx.doi.org.ezproxy.canterbury.ac.nz/10.4135/9781412994064.n238>.

- Paulin, A. (2016, November 19). Acts of God, the big bang, sinful humans and innocent animals. Stuff. Retrieved from <http://www.stuff.co.nz/the-press/opinion/86564510/Week-in-review-Acts-of-God-the-big-bang-sinful-humans-and-innocent-animals>
- Oliver, P. (2006). Purposive sampling. *The Sage dictionary of social research methods*. SAGE.
- Orloff, L. (2011). Managing spontaneous community volunteers in disasters: A field manual. Boca Raton: CRC Press.
- Palmer, G. J., & Sells, S. B. (1965). Behavioral factors in disaster situations. *Journal of Social Psychology*, 66. DOI: 10.1080/00224545.1965.9919621.
- Parr, A. (1970). Organizational Response to Community Crises and Group Emergence. *American Behavioral Scientist*, 13(3). SAGE.
- Pathirage, C., Seneviratne, K., Amaratunga, D., & Haigh, R. (2012). Managing disaster knowledge: identification of knowledge factors and challenges. *International Journal of Disaster Resilience in the Built Environment*, 3(3). DOI: 10.1108/17595901211263620.
- Paton, D., Selway, K. L., & Mamula-Seadon, L. (2013). *Community resilience in Christchurch: Adaptive responses and capacities during earthquake recovery*. GNS Science Report.
- Pfister, C. (2009). Learning from Nature-Induced Disasters Theoretical Considerations and Case Studies from Western Europe. In C. Mauch & C. Pfister (Eds.), *Natural Disasters, Cultural Responses*. Lexington Books. ProQuest Ebook Central.
- Phillips, N., & Hardy, C. (2002). Discourse analysis: investigating processes of social construction. *Qualitative research methods*, 50. SAGE.

- Phillips, B. D., & Neil, D. M. (1995). Effective Emergency Management: Reconsidering the Bureaucratic Approach. *Disasters*, 19(4), (pp.330). DOI: 10.1111/j.1467-7717.1995.tb00353.x.
- Piergiorgio, C. (2003). *Social Research: Theory, Methods and Techniques*, (1<sup>st</sup> ed). SAGE.
- Plumper, T., Flores, A. Q., & Neumayer, E. (2017). The double-edged sword of learning from disasters: Mortality in the Tohoku tsunami. *Global Environmental Change*, 44.
- Popova-Nowak, I. V., & Cseh, M. (2015). The Meaning of Organizational Learning: A Meta-Paradigm Perspective. *Human Resource Development Review*, 14(3). SAGE. DOI: 10.1177/1534484315596856.
- Potter, S. H., Becker, J. S., Johnston, D. M., & Rossiter, K. P. (2015). An overview of the impacts of the 2010-2011 Canterbury earthquakes. *International Journal of Disaster Risk Reduction*, 14. DOI: 10.1016/j.ijdr.2015.01.014.
- Provitolo, D., Dubos-Paillard, E., & Muller, J. (2011). Emergent human behaviour during a disaster: thematic versus complex systems approaches. Paper presented at EPNACS 2011; ECCS'11: Emergent Properties in Natural and Artificial Complex Systems, Vienna, Austria.
- Quarantelli, E. L. (1984). Emergent citizen groups in disaster preparedness and recovery activities. Final Project Report 33. The Disaster Research Center, University of Delaware.
- Quarantelli, E. L. (1987). Disaster Studies: An Analysis of the Social and Historical Factors Affecting the Development of Research in the Area. *International Journal of Mass Emergencies and Disasters*, 5.
- Quarantelli, E. L. (1989). Conceptualizing disasters from a sociological perspective. *International journal of mass emergencies and disasters*, 3. The Disaster Research Center, University of Delaware.
- Quarantelli, E. L. (1995). Emergent behaviors and groups in the crisis time of disasters. The Disaster Research Center, University of Delaware.



- Quarantelli, E. L. (1999). The Disaster Recovery Process: What We Know And Do Not Know From Research. The Disaster Research Center, University of Delaware.
- Quarantelli, E. L. (2000). Disaster Planning, Emergency Management and Civil Protection: The Historical Development of Organized Efforts To Plan For and To Respond To Disasters, (pp.4- 8). The Disaster Research Center, University of Delaware.
- Quarantelli, E. L. (2001). Statistical and conceptual problems in the study of disasters. *Disaster Prevention and Management*, 10(5), (pp.325-338).
- Quarantelli, E. L., & Dynes, R. R. (1970). Organizational and group behavior in disasters. *Behavioral Scientist* 13.
- Quarantelli, E. L., & Dynes, R. R. (1977). Response to Social Crisis and Disaster. *Annual Review of Sociology*, 3.
- Rodriguez, H., Quarantelli, E. L., & Dynes, R. R. (2006). Handbook of disaster research. *Handbooks of sociology and social research*. Springer.
- Rose, N. (1999). Powers of Freedom: Reframing Political Thought, (pp.52). Cambridge University Press.
- Rose, N., O'Malley, P., & Valverde, M. (2006). Governmentally. *Annual Review of Law and Social Science*, 2(1). DOI: 10.1146/annurev.lawsocsci.2.081805.105900.
- Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data*, (2). SAGE, London.
- Sabatier, P. (1987). Knowledge, Policy-Oriented Learning, and Policy Change. *Knowledge*, 8(4). SAGE.
- Saldana, J. (2009). The Coding Manual for Qualitative Researchers, (pp.98). Thousand Oaks, Calif: SAGE, London.

- Saldana, J. (2011). *Fundamentals of qualitative research. Understanding qualitative research*, (pp.98). Oxford University Press, Inc.
- Sawicki, J. (1991). Disciplining Foucault: feminism, power and the body. *Thinking gender*, (pp.103). Rutledge.
- Schneider, S. K. (1992). Governmental Response to Disasters: The Conflict Between Bureaucratic Procedures and Emergent Norms. *Public Administration Review* 52(2). American Society for Public Administration.
- Silverman, D. (2006). *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*, 3, (2<sup>nd</sup> ed). SAGE, London.
- Simonovic, S. P. (2011). *Systems Approach to Management of Disasters – Methods and Applications*, John Wiley & Sons, Inc., Hoboken, New Jersey, USA.
- Slater, R. O. (1995). The Sociology of Leadership and Educational Administration. *Educational Administration Quarterly*, 31(3), (pp.450).
- Smith, B. (2018). Generalizability in qualitative research: misunderstandings, opportunities and recommendations for the sport and exercise sciences. *Qualitative Research in Sport, Exercise and Health*, 10(1). DOI: 10.1080/2159676X.2017.1393221.
- Stallings, R. (1978). The structural patterns of four types of organizations in disaster. In E. L. Quarantelli (Ed.), *Disasters: Theory and research*. SAGE, London.
- Stallings, R. A. (1991). Disasters as Social Problems? A Dissenting View. *International Journal of Mass Emergencies and Disasters*, 9(1), (pp.70).
- Stallings, R. A. (1995). Promoting Risk: Constructing the Earthquake Threat. *Seismological Research Letters*, 66(5). New York: Aldine de Gruyter.
- Stallings, R. A. (1997). Sociological theories and disaster studies. University of Delaware Disaster research center.

- Stallings, R. A., & Quarantelli, E. L. (1985). Emergent Citizen Groups and Emergency. *Public Administration Review*, 45. American Society for Public Administration.
- Student Volunteer Army, (n.d). *Japan and New York: History*, (para. 7). Retrieved from <http://www.volunteerarmy.org/history/>
- Takeda, M. B., & Helms, M. M. (2006). Bureaucracy, meet catastrophe: Analysis of Hurricane Katrina relief efforts and their implications for emergency response governance. *International Journal of Public Sector Management*, 19(4). DOI:10.1108/09513550610669211.
- The Press, (2011, June 22). *Volunteers backbone of our community*. Stuff. Retrieved from <http://www.stuff.co.nz/the-press/opinion/5169410/Volunteers-backbone-of-our-community>
- Thompson, P., & McHugh, D. (2003). *Work Organisations*, (3<sup>rd</sup> ed). Palgrave Macmillan.
- Thornley, L., Ball, J., Signal, L., Lawson-Te Aho, K., & Rawson, E. (2015). Building community resilience: learning from the Canterbury earthquakes. *Kōtuitui: New Zealand Journal of Social Sciences Online*, 10(1), (pp.23-35). DOI: 10.1080/1177083X.2014.934846.
- Tierney, K. J. (2007). From the Margins to the Mainstream? Disaster Research at the Crossroads. *Annual Review of Sociology*, 33(1), (pp.3). DOI: 10.1146/annurev.soc.33.040406.131743.
- Tierney, K. J., & Goltz, J. D. (1997). Emergency Response: Lessons Learned from the Kobe Earthquake. Disaster Research Center.
- Tolich, M., & Davidson, C. (2003). Collecting the data. *Social science research in New Zealand: Many paths to understanding*, (2<sup>nd</sup> ed), (pp.121-153).
- Ussher, J. (1997). *Body Talk: The Material and Discursive Regulation of Sexuality, Madness and Reproduction*. London: Penguin. DOI: 10.4324/9780203135327.
- Vallance, S. (2011). Early Disaster Recovery: A Guide for Communities. Faculty of Environment, Society and Design, Lincoln University.

- Vallance, S., & Carlton, S. (2013). An Inventory of Community-led and Non-governmental Organisations and Initiatives in Post-earthquake Canterbury (to September 2013), (pp.3). Lincoln University.
- Vallance, S., & Carlton, S. (2015). First to respond, last to leave: Communities' roles and resilience across the '4Rs'. *International Journal of Disaster Risk Reduction*, 14. DOI: 10.1016/j.ijdr.2014.10.010.
- Van De Walle, B., Turoff, M., & Hiltz, S. R. (2014). Information Systems for Emergency Management. *Advances in Management Information Systems*, 16. Sharpe.
- Van Heugten, K. (2014). *Human service organizations in the disaster context*. Palgrave Macmillan.
- Villemure, M., Wilson, T. M., Bristow, D., Gallagher, M., Giovinazzi, S., & Brown, C. (2012). *Liquefaction ejecta clean-up in Christchurch during the 2010-2011 earthquake sequence*. University of Canterbury. Civil and Natural Resources Engineering.
- Wachtendorf, T. (2004). Improvising 9/11: Organizational improvisation following the World Trade Centre disaster. ProQuest Dissertations Publishing.
- Wachtendorf, T., & Kendra, J. M. (2004). Considering Convergence, Coordination, and Social Capital in Disasters. Disaster Research Center University of Delaware - Preliminary Paper, 342A.
- Wallace, A. F. C. (1956). Human behaviour in extreme events: A survey of the literature and suggestions for future research. National academy of sciences-national research council. Disaster Study Number 1., National Research Council (U.S.) (Committee for Disaster Studies, National Academy of Sciences, National Research Council).
- Walters, W. (2012). Governmentality: Critical Encounters. *Critical Issues in Global Politics*. Taylor and Francis.

- Webb, G. R. (1999). Individual and organizational response to natural disasters and other crisis events: The continuing value of the DRC typology. Preliminary paper (University of Delaware. Disaster Research Centre).
- Weber, M. (1978). *Economy and Society*. In C. Roth & C. Wittich (Eds.), *An Outline of Interpretive Sociology*. University of California Press.
- Weichselgartner, J., & Bertens, J. (2000). Natural disasters: acts of God, nature or society? On the social relation to natural hazards. In M. A. Andretta (Ed.), *Risk analysis II*, 45.
- Weinberg, D. (2014). Contemporary social constructionism: key themes, (pp.4). Temple University Press.
- Wilson, G. A. (2013). Community resilience, social memory and the post-2010 Christchurch (New Zealand) earthquakes. *Area*, 45(2). DOI: 10.1111/area.12012.
- Wisdom, J., & Creswell, J. W. (2013). Mixed Methods: Integrating Quantitative and Qualitative Data Collection and Analysis While Studying Patient-Centred Medical Home Models. Rockville, MD: Agency for Healthcare Research and Quality.
- Yamamura, E. (2013). Natural disasters and social capital formation: The impact of the Great Hanshin-Awaji earthquake. *Annals of Public and Cooperative Economics*, 84(1). DOI: 10.1111/apce.12005.